MODERN MONETARY SYSTEMS

BERTRAND NOGARO

MODERN MONETARY SYSTEMS

MODERN MONETARY SYSTEMS

BY

BERTRAND NOGARO

PROFESSOR AT THE UNIVERSITY OF PARIS; MEMBER OF THE CHAMBER OF DEPUTIES; FORMERLY MINISTER OF PUBLIC INSTRUCTION

RPI

LONDON

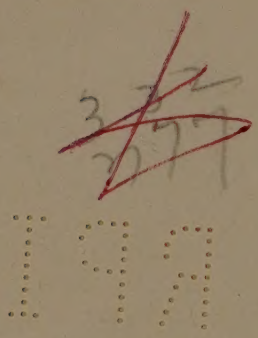
P. S. KING & SON, LTD.

ORCHARD HOUSE, WESTMINSTER

1927

S

PRINTED IN GREAT BRITAIN BY
RICHARD CLAY & SONS, LIMITED,
BUNGAY, SUFFOLK.



INTRODUCTION

The explanation of monetary phenomena and the classical theory.

MONETARY systems give rise in their operation to phenomena which from their first appearance have engaged the attention of thinkers as also of economists since such have existed.

The explanation of these phenomena appears to rest upon a few simple premises which need only to be judiciously combined in order to explain any particular case.

Money, it is commonly said in virtue of a doctrine now classical, is *essentially* a *commodity*. As such it is subject to the action of supply and demand, and its value varies inversely as its amount. This proposition is known as the Quantity Theory and seems to afford a key to almost all monetary problems. Thus, taking in the first place those problems which arise out of the concurrent use of two metals, gold and silver, we are assured that if one of these metals stands at a premium with regard to the other, this is obviously due to the latter being produced in excess.

Even Gresham's law, although it is the result of a piece of direct observation, namely, that bad money drives out good, can be linked up with this Theory. It is no doubt true that when money is at a premium it is exported because it is preferable for the purpose of making payments to foreign countries where it is admitted for the sake of its "intrinsic value"; or again, that it disappears because it is hoarded by cautious people who are confident that it will maintain its value, and lay it by in the hope of better times. In any case, it disappears. But what is there behind this

12451

phenomenon? The depreciation of some other money, some currency of a low standard, of debased metal—in fact, a low-grade commodity—or even worse, a paper currency. And surely in this last case there need usually be no hesitation in advancing an obvious *a priori* reason for the depreciation, namely, excessive production.

Turning to the phenomena of rising prices, we observe that, in a country where there is only one currency left—a paper currency which the Government increases indefinitely—a rise in prices will occur. Or again, a rise will take place in one or more countries where the standard is still gold—that sound and solid metal. It is true that the rise is much smaller, but in spite of an immense difference in degree, the phenomenon must be essentially the same in both cases. If prices rise, that is to say, if more gold must on the average be given for the same object, gold itself may be said to have depreciated. Surely this is due to there being too much of it. The Quantity Theory covers all these phenomena of general price movements.

Take, lastly, the phenomena of the exchanges. The rate warns us that a given national currency is falling more or less below the normal rate of exchange, below par,[1] if we are dealing with currencies of the same metal. This, it is said, is due to the depreciation of the particular currency. And why should it have depreciated for any other reason save that it does not fulfil the essential condition of sound money—that it shall be a commodity—or else because it is produced in excess? Here again the notion of a commodity and the Quantity Theory seems to solve the problem for us.

Turning now from theory to practice, let us consider the problem of restoring the value of a depreciated currency and of strengthening a weak exchange. The solution is to be found in a very simple piece of reasoning. A currency need only be reduced in volume in order to recover both its internal and external value, or, as the modern phrase goes, it is only necessary to deflate.

Finally, take the case of an attempt to make a stable

[1] On the exact meaning of the idea of "par," see *infra*, p. 4.

standard of values out of a currency which has undergone fluctuations in purchasing power. Such fluctuations may be reduced to a minimum by merely varying the stock, *i.e.*, by contracting the currency when prices rise and expanding it when they fall.

Moreover, this invaluable theory combined with one or two other factors leads us to some ingenious corollaries.

It may be asked why the precious metals, produced in a few countries, are so conveniently distributed over the large trading countries. The answer is that their production, by inflating the stocks of currency in the producing countries, provokes a rise in prices, which in turn creates the incentive to make purchases abroad and to pay for them by exporting the precious metals.

How and why does international commerce naturally tend to reach equilibrium? Here again the Quantity Theory gives a simple explanation. Countries which have to pay for an import surplus, export species; but in so doing their stock of metal decreases, the units of currency become more and more scarce, and increase in value, *i.e.*, prices fall; this fall stimulates exports and restores equilibrium.

And so the explanation of monetary phenomena—or even of the general economic phenomena connected with the use of money—is apparently reduced to a mere application of such simple and elementary principles that it is easy to understand why any tyro will feel no diffidence in expounding the subject as if he were an authority; all he needs to do is to adhere rigidly to "sound doctrine."

Anyone who has investigated monetary phenomena scientifically for many years realises, of course, that the theory which has been summarised above rests upon a certain number of correct data, however crudely observed. But it also rests on many confused notions, the result of imperfect knowledge or incomplete analysis of the facts. While adequate in some cases, in many others it only has the appearance of a scientific explanation.

The following pages are intended to give an explanation of monetary phenomena to-day which shall be more

consistent with the truths of economic science. Thus the first part of this book comprises an historical account of monetary systems and of their operation. In the second and third parts an attempt will be made to deduce the theoretical conclusions and to work out some of their implications in practice.

AUTHOR'S NOTE

THE work of which this is the English translation appeared in French in the middle of 1924. Certain events have occurred since that date; some countries have emerged from the monetary crisis, and Great Britain, in particular, has completely re-established exchange stability.

The reader is asked to remember this remark in reading the following chapters. It may be added, however, not only that the theoretical part of the book needs no change, but that the results which have been obtained since it appeared are entirely in harmony with the author's previous observations and with his practical conclusions; the restoration of the currency in Great Britain, and particularly in Belgium, has been carried out in strict conformity with the plan which he has sketched.

TABLE OF CONTENTS

PAGE

INTRODUCTION—THE EXPLANATION OF MONETARY PHENOMENA AND THE CLASSICAL THEORY v

PART I

MODERN MONETARY SYSTEMS AND THEIR OPERATION

CHAPTER I

MODERN MONETARY SYSTEMS 3

§ 1. Definition of monetary systems.

§ 2. Monetary systems in operation; rudimentary notions of the mechanism of exchange.

§ 3. Principal stages in modern monetary history.

CHAPTER II

THE REIGN OF BIMETALLISM 14

§ 1. Establishment of bimetallist *régime;* application of the system of free coinage to two metals; theoretical difficulties.

§ 2. Bimetallism in operation during the first three quarters of the 19th century. Explanation of the slight fluctuations in the price of silver in monometallist countries.

§ 3. Bimetallism in operation (*contd.*), its efficacy in maintaining a stable exchange ratio between gold and silver.

CHAPTER III

THE DEPRECIATION OF SILVER 27

CHAPTER IV

THE RECOVERY OF THE EXCHANGES BEFORE THE WAR OF 1914 31

§ 1. Monetary Reform in India: its exact scope and significance; adoption of the gold standard in a new form.

PAGE

§ 2. Imitations of the Monetary Reform in India.

§ 3. Similar Monetary Reforms in various countries with paper currencies.

§ 4. Comparison between the Conversion Office in the Argentine and the "Gold Exchange Standard" in the Far East. Identical principles and same essential conditions in the working of new methods as in the traditional system of the gold standard.

§ 5. Monetary Reform in Austria-Hungary.

§ 6. Results of Monetary Reforms, Stable Exchanges almost universally restored at the beginning of the 20th century on a gold basis.

CHAPTER V

THE MONETARY CRISIS SINCE THE WAR OF 1914 . . 48

§ 1. Consequence of the world-war from the monetary point of view. Inconvertibility of currencies. General disappearance of free export, and in some cases of free import, of gold. Disappearance of gold points and instability of exchanges.

§ 2. The Exchange policy of the Allies during the War. Union of sterling and francs with the United States dollar.

§ 3. Exchange policy in Germany and Austria during the War; the Exchange Control Offices (Centrales de Devises).

§ 4. Aggravation of the Exchange Crisis after the War.

§ 5. Causes of the aggravation of the crisis in the Allied countries.

§ 6. The Monetary Crisis in Germany and its characteristics. Prices follow the exchange but are fairly independent of the note issue.

§ 7. General characteristics and result of the world crisis in the exchanges after the War. Fundamental importance of price movements following instability of the exchanges.

§ 8. Attempts to overcome difficulties due to unstable exchanges and prices in countries with heavily depreciated currencies.

§ 9. Efforts to re-establish normal exchanges. England's traditional policy.

§ 10. Experiment in Czechoslovakia, based on the classical principles, produces at first a rise but not a stabilisation of the exchanges; a rise in prices takes place in spite of a contraction of the currency. Stabilisation attained in 1923 results, in practice, from convertibility.

§ 11. Currency reform in Austria. Return to normal exchanges by the effective use of the Gold Exchange Standard. Fairly stable prices emerge from stable exchanges in spite of an enormous increase in the fiduciary circulation.

§ 12. Conclusions regarding the present exchange crisis.

PART II

THE EXPLANATION OF CONTEMPORARY MONETARY PHENOMENA AND CURRENCY THEORY

CHAPTER I

PAGE

CRITICISM OF THE CLASSICAL THEORY 97

CHAPTER II

CURRENCY AND PRICE MOVEMENTS 101

§ 1. General price movements and the Quantity Theory.

§ 2. The Quantity Theory in History.

§ 3. The basis of the Quantity Theory: how far it is logically valid.

CHAPTER III

THE THEORY OF EXCHANGE AND ITS COROLLARIES . . 125

§ 1. The theory of exchange and the idea of depreciation.

§ 2. The theory and mechanism of exchange.

§ 3. Abnormal exchanges; the essential test is instability—the ultimate cause is inconvertibility of the internal circulation.

§ 4. Fluctuations in abnormal exchanges—limited influence of the balance of payments—influence of speculators and of their forecasts.

§ 5. The exchange rate and the Quantity Theory.

§ 6. Principles governing fluctuations of abnormal exchanges.

§ 7. The search for a limit to the fluctuations of abnormal exchanges; discussion of the theory of Purchasing Power Parity.

§ 8. Hypothesis of an automatic adjustment of the exchanges.

§ 9. Purchasing power parity as a function of the rate of exchange.

§ 10. The necessary conditions for a return to normal exchanges.

CHAPTER IV

THE NOTION OF MONEY AND THE NOTION OF A MONETARY STANDARD 162

§ 1. The notion of money and the notion of commodities—money of account and real money.

§ 2. The value of money.

§ 3. The exact meaning of the idea of a monetary standard.

PART III

MONETARY THEORY AND ITS APPLICATION IN PRACTICE

CHAPTER I

PAGE

THE ATTEMPT TO DISCOVER A STABLE STANDARD . . 183

§ 1. The nature of a monetary standard and the measure of values.

§ 2. Attempts to find a legal solution for the problem of unstable currency.

§ 3. Conditions for an economic solution of the problem.

CHAPTER II

THE RETURN OF NORMAL EXCHANGES 203

§ 1. Remarks on the nature of the exchanges and on the idea of stability.

§ 2. Stabilisation and the return to the gold standard: system of convertibility limited to external requirements. Fundamental similarity between various systems of gold standard.

§ 3. Requisites for monetary reconstruction.

CONCLUSION 229

PART I

MODERN MONETARY SYSTEMS AND THEIR OPERATION

CHAPTER I

MODERN MONETARY SYSTEMS

§ 1. *Definition of monetary systems.*

In order to understand monetary phenomena some knowledge of monetary systems and their operation is necessary. Now monetary systems involve the concurrent use of various kinds of monetary instruments—gold, silver or other metals, paper—and they are distinguished, not only by the number and character of the various currencies used, but also by a whole complex of legal requirements and actual circumstances which varies considerably as between one country and another. The use of coin and the concurrent use of several metals as money are very ancient; but there are two essential characteristics which distinguish modern monetary systems whatever differences there may be in the methods employed. One is the system of minting and the other is the issue of fiduciary currency, usually notes.

In France, under the old *régime*, the right of minting was an attribute of sovereignty, but the State *purchased* bar gold and silver at variable rates and used it to strike coins such as the gold louis or the silver crown. The State then proceeded to tariff these coins and put them into circulation as representing a certain number of units of account which it fixed and *altered* as it wished; thus as late as the end of the 18th century the French gold louis, which was originally tariffed at 20 livres, was raised to 24 livres.[1]

[1] This is a measure which in less crude form brought about the same result as the "increases" in money practised in the Middle Ages. These "increases" consisted in reducing the amount of metal in a coin while claiming to preserve its value, thus raising its legal tender. (See A. Landry, "Essai économique sur les mutations des monnaies.")

In our times—in France since the Revolution—this custom has ceased. The State extends a different treatment to precious metals, or at least to that metal which it has decided to use as the basis of its monetary system and to adopt as its standard. It is true that this metal is minted by the State and by the State alone ; but it is no longer bought, it is *accepted* in unlimited quantities by the mints from individuals who wish to have it coined. They bring their bar metal and it is given back to them in the form of minted money *weight for weight* except that in certain countries a small amount is deducted for *expenses of minting*. This is the system of *free coinage* or of *free money*.

Thus the State no longer claims either to restrict the entry of precious metals admitted under this sytem and the issue of the coins of which they are made or to tariff the coins. It therefore appears to limit itself to putting into circulation metal ingots brought by individuals, after having transformed them into smaller pieces of more convenient size, of which it certifies the weight and fineness.

Nevertheless, the law has thenceforward and once for all defined the monetary unit in terms of a certain weight of fine metal and every coin bears the number of units which it represents. Thus, as a result of the mere definition of a monetary unit, a bar of a given weight of fine metal represents a given number of monetary units in all those countries to which gold is admitted for free coinage.

The true theoretical significance of this provision will be defined later, and we will only add here that nothing is easier than to determine the ratio between the monetary units of two countries, *e.g.*, the franc and the pound, if the same metal is admitted to free coinage in both countries ; for each of these monetary units corresponds to a given weight of fine metal. Hence there is a constant ratio between them, *viz.*, the ratio between the respective weights of fine metal which they contain. The ratio between them, called mint par, is based on their material content, and—once given the definition of each monetary unit—it is not arbitrary. In virtue of this ratio of weight, which corresponds by the mere definition of the monetary units to a

numerical ratio between them, the pound sterling may be said to be worth 25·221 francs at par.

Moreover, as the system of free coinage enables French money to be transformed *ad libitum* into English money and *vice versa*, as many pounds can in fact be obtained with French gold recoined in London as that gold contains 25·221 francs, and *vice versa*, so long as free coinage is accompanied by its normal concomitant of free export and import.

It is also characteristic of our time that fiduciary currencies are more and more finding a place in monetary systems. Banks of issue are growing in importance, and although their notes were originally mere promises to pay in cash a certain number of monetary units, the public has become accustomed to accept them *in payment* of their nominal value, as though they were themselves true money. The legislation of most countries has sanctioned and extended this practice by making them legal tender. This means that individuals are obliged to accept them from each other but have the right of demand, if so desired, that they should be redeemed by the bank. In general, however, such redemption is only demanded with a view to payments abroad. In this way notes have become a real internal currency convertible either into gold or into silver or into either of these two metals.

Once in possession of these data it is easy to define the main types of monetary systems.

(a) *Systems based on Metallic Currencies.*

First type: Monometallism; Gold Standard.—Under this system, *gold is alone accepted for free coinage and can be freely imported and exported; gold is the only unlimited legal tender, or, in other words, alone has lawful currency for payments up to any amount.* Silver, like copper, nickel or any other monetary metal, only provides subsidiary coins *the legal tender of which is limited*—usually to a very small sum; *it is not accepted for free coinage*, the State reserving the right to mint in such quantities as appear to be convenient for the transaction of business.

There is, however, *a legal ratio* between the gold and silver currencies, since the silver as well as the gold coins represent a given constant number of units of account.

Lastly, *bank notes* must of necessity be *convertible into gold representing the same number of monetary units*. This naturally follows from the fact that gold coin is the only unlimited legal tender.

It is evident that *this system is based on gold: the other monetary instruments being deemed to be of value only inasmuch as they represent gold;* indeed, it is *because they can all, in fact, be converted into gold coin, which in turn can be exported and thus, by the system of free coinage, converted into the gold coin of some foreign country,* that the system has an *element in common* with the systems in all other countries *where gold is accepted for free coinage.*

It is therefore called the gold monometallist system or the *system of the gold standard.* It is the traditional monetary system of England.

Second type: Monometallism—Silver Standard.—Silver is alone accepted for free coinage [1] or by weight, and can be freely exported and imported ; it is the only unlimited legal tender. Under this system gold coin does not as a rule *circulate side by side* with silver, or, if it is in circulation, there is no fixed exchange ratio between it and gold. On the other hand, subsidiary coin of other metals can circulate with a fixed exchange ratio corresponding to fractions of the monetary unit which the silver coin represents. Bank notes are convertible into silver.

The basis of this system is therefore silver, and silver thus becomes the common standard of countries where this metal is accepted for free coinage. This is still the monetary system of China.[2]

[1] Alternatively, coins already minted are allowed to enter; for example, the Mexican dollar was for a long time admitted to the Far East with the same effect.

[2] It has been abandoned by nearly all countries in the Far East. Even French Indo-China is no longer fully a silver standard country; for silver is not accepted for free coinage and foreign silver coin is no longer admitted. The Indo-Chinese piastre is unlimited legal tender, but its minting is controlled by the Government.

Third type: Bimetallism.—Gold and silver are both accepted for *free coinage*, both are *unlimited legal tender;* there is a fixed and legal exchange ratio between the gold and silver currencies ; notes are convertible either into gold or silver at the discretion of the Bank of Issue.

This system, which flourished for a considerable period —from the beginning of the 19th century until 1873—in many European and American countries and has now disappeared, is also called the system of the double standard. As both metals could be freely imported, exported and coined, the countries in which it was adopted possessed a basis of settlement and a standard in common with monometallist gold standard countries on the one hand, and with monometallist silver standard countries on the other.

Fourth type: "limping" or incomplete Bimetallism.— Historically this is a debased form of the preceding system.

The essential difference between them is the disappearance of the free coinage of silver. States which have adopted it no longer have a standard in common with monometallic silver exchange countries, as they have ceased to accept payments by those countries in silver, subject only to the metal being recoined. The expression "bimetallism" adopted in the French literature of political economy is therefore wrong even if it is qualified and corrected by the word incomplete, *since there is no longer a double standard in the exact sense which satisfies the decisive test of a consideration of transactions with foreign countries.* Thus the so-called incomplete bimetallist system has generally worked out as a variation on the monometallist gold standard system in spite of the fact that silver coin or at least some kinds of silver coin may have remained unlimited legal tender and that bank notes may in theory have continued to be convertible into silver as well as into gold.

In certain countries, however, with an insufficient stock of gold the practice of restricting the convertibility of notes into silver leads to a system tantamount to a monometallic silver standard or even to a system of inconvertible paper currency (Spain before 1914).

Fifth type: Gold Exchange Standard or Gold Reserve.—At the end of the 19th century and as a result of circumstances which will be described later, certain countries with internal silver or paper currencies wished to find a basis for their monetary system in common with monometallist gold standard countries. They brought this about by providing that their silver coin or notes should be convertible into gold currencies at a constant exchange rate fixed by law. In such countries gold is therefore accepted for free coinage, or minted coin is allowed to enter, and the export of gold is permitted or gold already deposited in foreign countries is made available for payments abroad. In this way they do enjoy a gold standard for the purpose of transactions with other countries although there may be no gold in their currencies. Silver is not accepted for free coining and cannot be freely exported or imported. It is issued in quantities sufficient to meet the requirements of trade, whether for internal use as a normal instrument of payment (in which case it will be unlimited legal tender) or as subsidiary coin. It is convertible into gold at the fixed exchange rate for the purpose of payments abroad whenever the public authorities have a sufficiently large gold reserve to meet their liabilities. At home, notes may be convertible into silver if it is unlimited legal tender, or else they may be inconvertible; but like silver, they are convertible into gold for the purpose of effecting payments abroad.

This system, discovered empirically, was put into force by experimental stages in India, where the internal currency consists mainly of silver rupees. It has also been used with a paper currency in the Argentine, and it has spread over almost the whole of the Far East. It is the most modern and the most "economical" of systems; with a limited stock of metal it affords the most solid foundation for a monetary system based on gold, which is set free to perform its proper function as an international currency.

(b) *System of Paper Money.*

A system of paper money is usually the result of exceptional circumstances in which notes are no longer convertible and are granted *forced currency*. In theory, gold and silver coins continue to be exchanged internally for notes according to the previous exchange rate corresponding to the number of units of account inscribed upon each monetary instrument. At the present time in France a ten franc note ought to be exchangeable for two five and two ten franc notes for one twenty franc piece; no other proceeding is known to the law.

But in such circumstances gold coin soon disappears in practice through being exported or hoarded; and silver may likewise disappear unless it continues to perform the function of subsidiary coin.

A *régime* of paper currency is usually preceded, accompanied or followed by abnormal issues, but its essential characteristic is not necessarily either inflation or the disappearance of coin from internal circulation, but that the currency only circulates internally. Hitherto a given paper currency has almost always been peculiar to a single country; hence this system does not provide a monetary basis in common with other national monetary systems. Almost all monetary phenomena which require elucidation and almost all the problems which need solution in countries on a paper currency will be seen to derive from this essential characteristic.

The only requirement for bringing a system of paper currency back to the gold exchange standard is that paper should again become convertible into gold at a fixed rate for the purpose of payments abroad, although coin may have ceased to circulate internally and the note issue may not have been reduced to the previous figure.

§ 2. *Monetary systems in operation; rudimentary notions of the mechanism of exchange.*

With the above definitions in mind it is easy to understand how monetary systems work generally and to grasp

the kind of problem which arises out of their interaction. We shall see below how the power to increase a note issue can itself seriously disturb the working of monetary systems. But in general it may be said that it is the relations between different monetary systems which chiefly give rise to obscure phenomena and ticklish problems. *In other words, most monetary phenomena arise in connection with payments by one country to another and as a result of the necessity of converting one national currency into another.* Therefore in order to understand monetary phenomena the reader should have some idea of the mechanism of the exchanges.

As is generally known, the mechanism of the exchanges depends on a method of setting off international debts which consists in negotiating bills of exchange or drafts drawn on foreign countries. For instance, I have to pay a thousand pounds in London. A Paris merchant, on the other hand, has a similar sum to recover, also in London; he draws a bill on his debtor, Mr. Smith, and sells it to his bank; I purchase this bill and send it to my creditor in London, who collects the amount from Mr. Smith. Thus a double offset has occurred by which the French creditor has been paid in Paris in French money and the English creditor has been paid in London in English money. Two inverse transfers of specie have thus been avoided, together with the various costs of transport and recoinage.

The service rendered is naturally paid for by the one who derives most profit; for this reason the *rate of exchange* varies according to whether the total claims represented by bills drawn on foreign countries are greater than, equal to, or less than the debts payable.

Between two countries which are, as it is said, *on the same standard*, or more accurately which *use the same metal and where that metal can be freely exported, imported and coined*, this proceeding has for its sole object the saving of transport costs. In any settlement between France and England before the war, it may be said that, thanks to the system of free coinage, it was open to anyone at any time to pay in specie. Moreover, as each of the monetary units

represented a given known weight of fine metal, the number of francs necessary to pay £1000 could be ascertained in advance; it amounted at par to 25,221 francs, and expenses in respect of transport, insurance, loss of interest, etc., only had to be added to this sum in order to ascertain the maximum price in francs of £1000 sterling *delivered in London* (export gold point). Similarly, the same costs only had to be deducted from 25,221 francs in order to ascertain the minimum value of £1000 sterling in French money *transferred to Paris*, for the French creditor who is obliged to have this sum transmitted in the form of specie and to have it recoined (import gold point).[1]

This is the reason why, as *between two countries which use the same metal and where that metal can be freely exported, imported and coined*, a draft will not fetch a higher price than the cost of transmitting gold. This is the reason why, on the same assumption, the exchange rate is strictly limited by the gold points in the case of countries with a gold currency and by the silver points in the case of countries with a silver currency. Fluctuations in the rate of exchange are exceedingly small and the exchange may be said to be stable.

It is easy to see how bimetallist countries, so long as they existed, were able, thanks to the concurrent use of two metals both of which could be freely exported, imported and coined, to transact business on a firm basis both with countries which have a silver currency and with those

[1] It should be observed that francs are bought and sold in London in the form of drafts on Paris and that sterling is similarly negotiated in Paris in the form of drafts on London. The two markets are in complete harmony if only for the reason that when, for instance, the pound sterling under the influence of a French credit balance on England costs less than 25·221 francs in Paris where drafts on London are plentiful, it is also the case that under the same influence less than 25·221 francs will be given for £1 sterling in London, where drafts on Paris are scarce. The exchange may be quoted in home currency—called "quoting uncertain" or in a foreign currency, called "quoting certain." In Paris, for instance, the pound is quoted in francs, so that a rise in the rate registers a fall in the value of the franc. Nevertheless, whenever we have to use the expression "the exchange rises" it should be understood to mean that the home currency has gone up in value, and *vice versa*.

which have a gold one. Finally, it can be seen how monometallist countries on gold and monometallist countries on silver could restrict the fluctuation of their exchanges within narrow limits by effecting settlements with each other *through bimetallist countries*.

In conclusion, it will be observed that exchange problems are of much greater importance for countries which have different currencies. The mechanism of setting off indebtedness remains the same, but in the absence of drafts on foreign countries there is no certain method of settlement by which the purchase price of a draft payable in the home currency, or, in other words, the rate of conversion of the home currency into a foreign currency, can be restricted. In these circumstances the exchange rate can fluctuate far outside the export and import gold points.

In practice—and doubtless also in theory[1]—its fluctuations may be considered as unlimited and it is this circumstance which most commonly gives rise to difficulties in the working of monetary systems.

§ 3. *Principal stages in modern monetary history.*

With the help of the above elementary knowledge of a technical kind, the attentive reader will be able to understand the following historical account, which will give us a more detailed acquaintance with monetary phenomena, and thus enable us to proceed to reconstruct our theory on somewhat new foundations.

It is not possible to review the monetary evolution of each country in turn, but it will be seen that modern monetary history is in general dominated by a few important events.

In the first period, covering the first three-quarters of the 19th century, the field is held by Bimetallism, which gives stability to the monetary relations of monometallist countries on gold or silver and only a few countries which have lapsed into a paper *régime* are left outside the scope of its regulating influence.

[1] On this subject, see *infra*, Part II, Ch. III.

Particular attention will be devoted to this first stage in modern monetary history, as it brings out a piece of experience of capital importance.

In the second period, beginning in 1873, we shall see Bimetallism disappear and very serious disturbances caused by the depreciation of silver.

In the third period, which begins 20 years later, we shall witness a successful attempt to put an end to these disturbances by the adoption of the gold exchange standard.

Finally, with the war of 1914 we enter upon a new period of disturbance which previous events will help us to understand.

CHAPTER II

THE REIGN OF BIMETALLISM[1]

§ 1. *Establishment of bimetallist* régime; *application of the system of free coinage to two metals*; *theoretical difficulties.*

THE disappointments with which public authorities had met for several centuries under the old *régime* in their perpetual efforts to scale the value of currency seemed to have demonstrated how useless it was to intervene, and the conclusion was drawn that the value of currencies was determined by natural causes outside the control of public authorities, and that both in regard to the determination of its value and in other respects money was essentially a commodity.

A sound comprehension of the real nature of money under modern conditions thus seemed to dictate, so far as possible, a policy of complete non-interference. Modern legislation has conformed to this view and the monetary practice of the old monarchies has given place to the system of free coinage described above.

In order to link up the new coin with the previous moneys of account, it was enough to define each of the latter in terms of a certain weight of fine metal, which was to remain constant. Thus the franc was originally defined as consisting of 5 grammes of silver 9/10 fine, the pound sterling of 123·274 grains of gold of a fineness of 22/24 carats (or 7988 grammes of a fineness of 0·916). But a difficulty arose; if money is a commodity the value of which can no more be controlled by law than that of any other commodity, it is idle to attempt to keep a constant ratio

[1] Part of this chapter has already appeared with the title "L'Expérience bimétalliste du XIX siècle et la théorie de la Monnaie" (*Rev. d'économie politique*, 1908).

between currencies of various metals. This conclusion was so obvious that the law was forced to take it into account.

In England the difficulty was overcome, as is well known, by monometallism. The system of free coinage was applied only to gold. Silver was still bought by the Government and minted only in such quantities as were considered necessary for petty cash transactions; it was scaled in terms of gold, but was only legal tender to small amounts. Then silver, being reduced to the level of copper, acted merely as a substitute for gold, and was only used for minor transactions. As gold was alone held to be in free circulation, it was considered the true money in that it served as the standard measure in business transactions; it was the only standard metal.

The reformers of the French Revolution adopted the same principles but applied them differently. They admitted both metals to free coinage. They then took as a basis for their new monetary system the silver franc, which corresponded almost exactly to the livre of the time. As they thought themselves unable to establish a fixed ratio between the gold coin and silver, they decided in the first instance to use the former as mere "commercial tokens," bearing a statement of weight and fineness, but without acquiring a definite exchange value in relation to silver coin either in virtue of their denomination or of any legal exchange ratio.

It was only urgent practical necessity that overcame these theoretical scruples and induced the Legislature in the year XI to fix a legal exchange ratio between the two metals and to state on the gold coin an amount in francs corresponding to this ratio. A *régime* resulted under which both metals were accepted for free coinage and at the same time a fixed exchange ratio was established between them, *i.e.*, a bimetallist system. At first it was considered illogical and contradictory,[1] even by its originators. On the one

[1] The first report of the "Comité des Monnaies" in 1790, quoting Locke and Newton as authorities, states that there is "a physical impossibility and a perpetual contradiction between the facts and any law which attempts to fix once for all the price of metals used for minting them." Nevertheless

hand, the system of free coinage as applied to both metals seemed likely to put each into free circulation and allow the value of each to be freely determined without the slightest interference by public authorities; on the other, it might be inferred from the fixing of a legal ratio that the law had at least power to determine the value of one metal with regard to the other—a supposition which runs counter to a doctrine based on centuries of experience. Nevertheless, bimetallism was adopted in a great many European and American countries and holds a predominant place in the monetary history of the first three quarters of the 19th century. But it should not be forgotten that it was set up in France empirically and with the idea that the legal ratio would have to be altered according to fluctuations in the commercial value of the two metals.

Hence considerable variations were expected to occur in the ratio between the two metals, as a result of a rise or fall in the stocks of metals and thus of vicissitudes in their production. Now with regard to the 70 years which elapsed between the year XI and 1873, the striking fact is not that fluctuations should have occurred, but that they should have been so slight and that the exchange ratio between the two metals should have been so nearly constant. This is a phenomenon which calls for the attention of economists and gives rise to some mistrust of the principles which guided the originators of our monetary system.

§ 2. *Bimetallism in operation during the first three quarters of the 19th century. Explanation of the slight fluctuations in the price of silver in monometallist countries.*

In the first place, let us rehearse the facts. Throughout the whole of this period the legal rates between gold and

Desrotours, a man of practical experience in monetary affairs, declared that such fixing is possible internally, but he admitted that owing to the necessity of transactions with foreign countries a constant ratio could not be maintained; this was true at a time when the legal ratios often varied considerably as between different countries. Even in the 14th century the notions behind the classical theory are to be found in the works of Nicole Oresme. (See M. Bridrey's scholarly work, "La théorie de la monnaie au XIV^{ème} siècle," Nicole Oresme, Giard et Brière, Paris, 1906.)

silver had been 1 to 15½ in France and in the majority of bimetallist countries. Now the commercial ratio given by the London quotations for silver rarely exceeded 1 to 16 or fell below 1 to 15. Thus the variations were always slight, and after the disturbed time of the Consulate and the Empire only four phases of alternating movements emerge between 1814 and 1873. Between 1814 and 1819 the annual average, consistently below 15·5, shows that silver was at a premium with regard to the legal ratio; between 1820 and 1850 the commercial ratio, consistently above 15·5,[1] marks, on the contrary, a period in which gold stands at a premium; from 1851–1866 the annual average, always below 15·5, once more shows silver at a premium; from 1867–1873, the end of our period, the commercial ratio, consistently above 15·5 again, shows gold at a premium.

Thus during the whole period in which gold and silver were concurrently accepted for free coinage, *i.e.* during the whole period of real bimetallism, the relative value of the two metals was only subject to alternating movements, which were slow and inconsiderable; so that their prices, instead of pursuing independent courses, seem to be bound up with one another.

We shall attempt to examine this important phase of modern monetary history by first seeking the causes of the fluctuations observed in the relative value of gold and silver and then by attempting to discover why these fluctuations were so slight, and why the rates of the two metals, so closely connected as long as the bimetallist *régime* lasted, became independent of each other after its disappearance.

Although the fluctuations which occurred during the period of bimetallism in the relative value of the two

[1] In fact, owing to the costs of minting, the legal ratio in France was 1 : 15·59 and later 1 : 15·58. But from 1820 to 1850 the quoted rate always corresponded to a ratio far exceeding, not only 1 : 15·50, but even 1 : 15·59. It was not till the period 1867–1873 that the annual average occasionally fell below 1 : 15·58, but the price of silver often fell to a point corresponding to a higher ratio.

metals were moderate, it was a temptation to explain them by reference to the state of production in each case.

In accordance with this view, the years 1814–1819 and 1851–1866 ought to show greater progress in the production of gold than of silver, whereas from 1820 to 1850, and from 1857 to the end of our period, there ought to be greater progress in the production of silver than of gold. Now it is in fact[1] true that during the last section of our period 1867–73 silver takes a higher place in the respective production of the two metals than it did in the preceding section. It is also true that in the section 1851–1866, *taken as a whole*, the amount by which silver was at a premium coincides with a marked decrease in the proportion of silver to the total production of the two precious metals.[2]

On the other hand, a considerable decrease[3] in the proportion of silver to the total production of both metals had already occurred between 1820 and 1850, and during this, the longest of our periods, gold and not silver stood at a premium.

The theory that fluctuations in the commercial rate vary directly as the production of both metals would therefore tend to be invalidated for a period almost equal to that for which it is confirmed. Economic phenomena are no doubt so complicated that those who believe in general laws are neither surprised nor shaken by the appearance of anomalies. Nevertheless, the problem may in this case have been wrongly stated; for the argument that the relative value of the two metals varies directly as the quantities produced could only be fairly deduced from the law of supply and demand if these quantities were definitely intended for exchange with each other; and this is not the case.

The factors on which the relative value of the two

[1] For these data, see Treasury Report by the Director of the Mint at Washington (1904, p. 145).

[2] The amount produced was worth only one-quarter of the value of both precious metals as against more than one-half during the preceding period.

[3] The proportion fell to 59% as against 75% in the preceding period.

metals depends are, in fact, far more complicated. In order to understand this we need only consider how many different monetary systems existed in the commercial world during the period under review.

On the one hand, there were monometallist gold standard countries of which the most important was England, and monometallist silver standard countries in the Far East; on the other, we have bimetallist countries having currencies in common both with silver and with gold standard countries; for both metals were accepted from the public for minting, and the inhabitants could not only discharge debts but also receive payments in either currency. For instance, a bimetallist country such as France had a currency in common with either class of monometallist country; for whatever the denomination taken for each unit, it was possible with any given weight of pounds sterling to obtain an equal weight of francs in gold, or with a given weight of rupees an equal weight of francs in silver. And as the ratio between the two metals was rigidly fixed by law and indicated by the very inscription on the coin, a French creditor on a foreign country was indifferent whether he was paid in gold or silver. Conversely, in order to discharge a foreign debt he had only to choose the metal which was accepted for coinage in his creditor's country. But the intermediary for the settlement of most transactions with silver standard countries was in fact London. Now the *English* creditor of a Far-Eastern country was precluded from receiving payments in silver. For, although Great Britain also had a fixed ratio between gold and silver coin, private individuals could not bring silver for free coinage and an English creditor could not convert silver into legal tender currency. Except occasionally, when this silver could be returned as payment to some country where it was accepted by the Mint, there was no method of transforming it into English currency except to have it first minted in a bimetallist country and obtain in exchange the gold coin of its currency, the latter being then convertible into English legal tender currency under the system of free coinage. Conversely, an Englishman who was short

of silver with which to settle his accounts in a country where silver alone was admitted, had to send gold to France there to be converted into French currency and take in exchange the silver of its currency which was legal tender in the creditor country.

It is therefore easy to conceive that the London quotation for silver, i.e., *the rate on which all the calculations of the commercial ratio between the two metals are based—must have been directly influenced by the possibility either of silver having to be sent*, e.g., *to France in order to obtain its conversion in English legal tender currency or, on the contrary, of gold having to be sent there in order to obtain silver.*

Thus silver was bound to rise in value and stand at a premium whenever there was a possibility of gold having to be exported in order to obtain it. On the other hand, it was bound to fall in value and gold was bound to go to a premium whenever the latter could only be obtained at the expense of sending silver to a neighbouring bimetallist country, of exchanging it there into gold coin, and finally of bringing back this gold. England was the chief monometallist gold standard country and was also responsible for financing transactions between the greater part of Europe and distant countries. Therefore the necessity of converting gold into silver for settlements in countries which only admitted the latter put silver at a premium whenever England had a surplus of debts payable to countries with a silver currency. Conversely, the actual or potential necessity of converting silver into gold put gold at a premium whenever surplus debts due to Great Britain by silver standard countries had to be collected and therefore converted into English legal tender currency.

Hence we are led to the conclusion that variations in the commercial ratio between gold and silver during the period of bimetallism were closely bound up with the balance of trade as between monometallist gold-standard countries, chiefly represented by England, and monometallist silver-standard countries, chiefly represented by the Far East.

And this explanation still leaves room for the factor of production in the determination of the respective prices

of the two metals. For instance, a fall in the stock of silver could create the necessity of seeking it in the currency of bimetallist countries, and thus send it to a premium. But, on this theory, the price of silver, or, in other words, the commercial ratio between the two metals, does not depend on the ratio between the amounts of gold and silver produced, or at least used for minting purposes, but on the ratio between the amount of each metal available for the payments for which it was required and the aggregate of these payments.

As is well known, settlements between gold standard and silver standard countries were, in fact, always effected during the 19th century by shipments of white metal to the Far Eastern countries. Their accounts with Europe generally disclosed a credit balance; but as this balance might stand more or less high, the silver on the market might be more or less than sufficient to meet it.[1] On the other hand, the amount of available silver depended, not only on the amount produced, even after deducting the requirements of industry, but also on the amounts which the trade balances of producing countries like Mexico caused them to throw on the London market.[2]

[1] In India, silver, like gold, has always been imported partly for industrial use, jewellery, etc. As, however, metal required for this purpose would have had to be paid for in coin if the trade balance had been unfavourable, the import of silver into India must be considered as payment in settlement of European debt to that country.

[2] Countries which produce precious metals do not export them merely because they have a surplus. It is true for various reasons that the production of precious metals may produce a trade balance which causes them to be exported; but the export from monometallist countries necessarily depends on the trade balance; for instance, no one will import gold specie if it has to be paid for in gold coin.

The majority of silver-producing countries were bimetallist, and it was possible in theory to export gold to them in order to procure silver in the event of its not flowing naturally to the London market in payment of their debts. But this method of conversion would have been even more expensive than conversion into the currencies of neighbouring bimetallist countries, such as France, which were non-producing but possessed a large stock of both metals. We therefore conclude that the silver on the London market arrived there chiefly as a result of the payment of debts by producing countries, and that its amount did not depend directly on production, but on the quantities required for the trade balance of those countries.

To sum up, whenever white metal from producing countries was barely sufficient to pay off the debts owing to the Far East and it became necessary to call upon the stocks of bimetallist countries, silver went to a premium; when, on the other hand, shipments of white metal to London could not be immediately deflected to the Far East, and it became necessary to send some of it to bimetallist countries, reserving at least a part for repatriation in the form of gold specie convertible into British legal tender currency, gold went to a premium.

The co-existence of monometallist gold and silver standard countries on the one hand and of bimetallist countries on the other, accounting as it does for the conditions of the London market for silver throughout the bimetallist *régime*, gives a logical, and, it may be added, a psychological explanation of the variations in the ratio between the two metals during the period under consideration.

Moreover, such facts as we have confirm this view. It has, for instance, been definitely established that the silver premium before 1867 coincided with enormous transfers to India to pay for abnormal purchases of cotton and in the form of loans of large capital sums; articles in the *Economist* bear witness to the necessity of having recourse at the time to the stocks of bimetallist countries, and in particular of France, for this purpose; at certain times it also became necessary to pay a considerable premium in exchanging gold for silver in the currency of the country. On the other hand, the gold premium, or in other words the fall in silver after this period, coincides with an enormous decrease in the amounts transferred, due to the disappearance of abnormal purchases and to payments in respect of interest on the capital invested in India.[1]

[1] According to Monsieur de Foville ("La Monnaie," p. 47) the net imports of silver into India, which had averaged 135 million rupees during the War of Secession, had fallen to 23 millions in 1872. See also Arnauné, "La Monnaie, le Crédit et le Change," 3rd ed., pp. 41 and 231. The Customs statistics of India bear out that the silver premium after 1860 coincides with a sudden enormous increase in the import of silver into India, whereas the fall in silver after 1866 coincides with a sudden enormous decrease in

Further, it has long been observed that the alternate import and export of gold and silver in bimetallist countries, chiefly France and the United States, usually coincided with their alternately standing at a premium with regard to the legal ratio.

A kind of application of Gresham's law has rightly been seen in this, and the inevitable flight of a metal with a commercial ratio greater than its legal ratio was naturally deduced. But in our view the real meaning of this commercial ratio should be defined by explaining its variations in the light of the remarks on foreign exchanges which follow; and, inverting, as it were, the classical proposition, it may be added that, *if it is true that one of the two metals disappears whenever its commercial price exceeds the legal ratio, the rise in the commercial price in itself depends on the possibility of having to import it.*

§ 3. *Bimetallism in operation* (contd.), *its efficacy in maintaining a stable exchange ratio between gold and silver.*

If the above considerations give an accurate explanation of variations in the ratio between gold and silver, they also show—a much more important matter—why those variations were so slight in the period under consideration. Between 1833 and 1873 the London rate for silver never fell by more than 3% below French legal par, and never rose by more than 2% above it.

Indeed, during the entire period of what we have called Bimetallism, *i.e.*, of the concurrent admission of both metals to free coinage in a very large number of countries,

---

its import. See, for instance, the "Treasury Report "of the Mint at Washington of 1903, p. 244. M. Cauwes ("Cours d'économie politique," 2nd ed. vol. i, p. 497) also shows that between 1860 and 1865 the amount of silver exported to the East exceeded the amount produced, whereas during the following five years it was only one-third of that amount. Lastly, a letter in the *Economist* in 1872 (23 Nov., p. 133) bears witness that, particularly during the War of Secession, English gold was sent to France in order to obtain silver for the payment of Indian cotton. In our opinion, this explains physically, so to speak, why silver stood at so high a premium during this time. (See also *ibid.* 1874, 7 Nov., p. 291.)

anyone desiring to sell silver on the London market at a price considerably higher than that given by the legal ratio of the Latin Union would have elicited the following reply from an intending purchaser: "I shall import it at my own expense; in the end it will be cheaper." Thus the possibility of drawing on the stocks of bimetallist countries fixed a maximum price for silver, at any rate so long as these stocks did not approach a point of exhaustion. Conversely, during the same period anyone holding silver who was offered a price for his bullion considerably lower than that given by the legal ratio could reply: "At your price I should prefer to take it to a mint, in Paris or Brussels, for instance." *And this reply held good so long as there was vacant space in the mints.*

A decisive influence on price stability must therefore have necessarily been exerted by the limits imposed by Bimetallism upon the conditions of the silver market.

Hence the following observations may be made at once without attempting to draw all the theoretical conclusions which in our view follow from the experience of 19th-century Bimetallism.

Contrary to the expectations of the legislators of the year XI, it was possible for nearly three-quarters of a century to maintain the legal ratio between gold and silver without modification in France and without important changes in other bimetallist countries. Internally, there was never a moment when a 20-franc louis could not be exchanged for four silver crowns. Moreover, even outside bimetallist countries and in particular in London where the world market for silver was situated, the value of silver expressed in terms of gold only oscillated very slightly about the point given by the legal French ratio. Thus, in the light of the above considerations, the facts show that the silver market was strangled by bimetallism; and the right of the public authorities to fix the respective prices of the two chief monetary metals began to be exercised at the very moment when they thought proper to abandon the attempt.

It may be added that the monetary legislation of France

in the year XI, which was adopted by many other countries, *regulated international monetary relations* for nearly three-quarters of a century by ensuring stable exchanges between monometallist gold-standard, bimetallist and monometallist silver-standard countries. An inhabitant of India, for instance, who only had silver at his disposal and whose English creditor could only accept gold, was able to have his rupees sent to France, re-coined, and transformed into 5-franc pieces, take 20-franc pieces out of French currency, and then procure pounds sterling by having them re-coined in London. The *possibility* of carrying out this series of operations, if need arose, was sufficient to restrict the exchange rates between India and England within the limits of a *gold point* and a *silver point.*

It is true that the final abrogation of this system might be considered as a belated confirmation of the fears entertained by the legislators of the year XI when they set up the double standard *régime* in defiance of their principles. Experience does indeed show that the working of Bimetallism involves some risk for countries which have adopted it, *when they are surrounded by monometallist gold-standard and silver-standard countries*, which draw upon their stocks of the metal required for monetary transactions, and surrender the other metal in exchange. Moreover, this danger may become particularly serious in the event of overproduction of white metal or the demonetisation of silver coin in a neighbouring country; for silver will be sent in enormous quantities to bimetallist countries, and as these shipments are not provoked by the necessity of settling debts, those who use this method of getting rid of their silver will very naturally recoup themselves by obtaining a corresponding amount of gold. This happened in 1873, and it is for this reason that thenceforward bimetallist countries suspended the free coinage of silver in order to protect their stock of gold.

Thus Bimetallism, caught between gold- and silver-standard countries, works to the profit of both, by suffering depletion alternately of the metal which is most in demand, and receiving in exchange the one which is

unwanted. The thanklessness and danger of this task explain the decision taken in 1873 by the Governments of countries which had adopted this system. But this explanation, which is self-evident, also leads logically to the conclusion that Bimetallism could easily have subsisted if it had been universally adopted.

CHAPTER III

THE DEPRECIATION OF SILVER

THE disappearance of Bimetallism, which was the result of the final suppression of the *free* coinage of silver, did not do any direct injury to those countries which took their decision in good time. They proceeded to adopt the *régime* already described above, which, although called partial or "limping" bimetallism in France, is hardly more than a variation of the monometallist gold-standard system. But the world was thenceforward divided into countries on an effective gold standard (monometallist gold standard and limping bimetallist countries) where gold was alone accepted for free coinage, and countries on a silver standard (monometallist silver-standard countries or countries which were theoretically bimetallist but now only used silver), with the addition of a few which had a paper currency. Most European countries, *i.e.*, England, France, Belgium, Switzerland, Germany and Holland were in fact on the gold standard, while a few still had a silver or paper *régime*. In America, the United States, formerly bimetallist, had in fact adopted the gold standard, like France; but Mexico and various other countries of the New World were on a silver standard. The Far East, China, Japan, British India and the Straits Settlements, the Philippines (in effect), French Indo-China, etc., were also on a silver standard.

From 1873 onwards not a single great power was effectively bimetallist and in a position to act as intermediary so that transactions between gold and silver standard countries could find a stable basis. Silver, being no longer accepted in countries hitherto bimetallist except in the form of bullion, varied in price, and the exchanges

between silver and gold standard countries accordingly began to fluctuate; for in the absence of a sufficient quantity of drafts it was now necessary to export silver, which was no longer convertible at a fixed rate either directly or indirectly, through bimetallist countries, into the currency of a creditor country and only represented in this currency an amount which varied with the market price.

This uncertainty was considerably aggravated by a rapid decline in the value of silver after 1873. Public opinion was much disturbed by this depreciation, both in countries where it took the form of an exchange crisis and in countries such as the United States, where it affected the interests of a powerful group of producers. An important monetary phenomenon, it was the object of countless inquiries and heated discussions which soon spread from the economists to politicians.

These discussions do not, however, appear to have resulted in any clear explanation of the phenomenon. The advocates of a return to bimetallism merely accused Governments which had suspended the coinage of silver of having restricted the market for the white metal—an argument which was not conclusive, since the recent statistics showed that the market for silver had not shrunk after 1873. The real cause of the depreciation of silver lay, not in the suspension of coinage, but, as we shall see, in the suppression of *freedom* of coinage.

Certain attendant circumstances prevented people from seeing at the time that this was the true explanation. In the first place, the depreciation of silver after 1873 seemed to be a mere continuation of the fall which had been taking place since 1867. Again, before the suspension of coinage by the Governments, administrative measures had been taken to relieve the pressure on the mints. Lastly, even before the decision to suppress free coinage of silver had been officially taken, its market rate had been affected by prolonged delay in coining and even by the fact that further *ad libitum* minting of silver had become comparatively uncertain. *Nevertheless, it is the suppression of free coinage which marks the radical change in the conditions of the market.*

For so long as anyone, even though he were not living in a bimetallist country, desired to sell silver and could find a market by sending it to the mint of a neighbouring country, *for a price in gold corresponding to the legal ratio obtaining there, it was generally true that the rate of silver could not fall permanently much below the legal ratio* (less the cost of transport and coinage, interest on the sum locked up in the process of minting, the cost of returning the gold obtained and possibly an insurance premium and a few miscellaneous expenses necessitated by this method of conversion). *But with the disappearance of the minting of silver for the benefit of private individuals, this process had become impracticable* and anyone desiring to sell silver no longer had it to fall back upon.

The rate of silver was thus limited by a maximum; for in the last resort it could be obtained by having gold coined in a bimetallist country; but there was no longer a minimum rate. Or, rather, a minimum rate—nearly equal to the maximum—could only have reappeared if the aggregate amounts payable in silver standard countries had been such that with insufficient stocks available on the silver market it had become necessary, as in the years between 1850 and 1866, to draw for this purpose upon the silver crown holdings of the bank or in circulation.

But it will be remembered that the position was quite different at the time when the free coinage of silver was suppressed; for not only did India require comparatively small shipments of silver, but, since Germany and the Scandinavian countries had gone on to gold, any surplus foreign credits of these countries, as in the case of England, no longer had to be converted from gold into silver, but from silver into gold.

In these circumstances the disappearance of the coinage of silver, by abolishing the previous minimum rate, exposed it for the future to unrestricted fluctuations which tended towards depreciation. Hence, comparing the state of the silver market during and after the period of Bimetallism, we are led to the following conclusion:

The suppression of free coinage was not the sole cause of the

depreciation of silver, but, given the state of trade balances between gold- and silver-standard countries, it was bound to produce a fall, not, as the bimetallists contended, as a result of a restricted market, but because of the disappearance of the former minimum created by the admission to free coinage in double-standard countries.

The fall between 1867 and 1872 and the depreciation which began in 1873 are therefore distinct phenomena; the former took place under the influence of settlements between monometallist gold- and silver-standard countries within the limits maintained throughout the period of Bimetallism by the convertibility of one metal into the other. On the other hand, the depreciation of silver which began in 1873 is a new phenomenon, which was no doubt partly due to the state of trade balances between gold and silver standard countries, but which can only be fully accounted for by the radical change in the silver market caused by the suppression of free coinage.

CHAPTER IV

THE RECOVERY OF THE EXCHANGES BEFORE THE WAR OF 1914

§ 1. *Monetary Reform in India: its exact scope and significance; adoption of the gold standard in a new form.*

The monetary crisis which resulted from the disappearance of bimetallism might have found a logical solution in a return to it, if the assumption by certain States of the burden of regulating at their own risk monetary relations between gold and silver standard countries could have been avoided, *i.e.*, by its *universal* adoption. All efforts in this direction failed before the opposition of British tradition and met with various other objections, in particular the widespread fear that, with an increase in the world stock of coin, it would depreciate in value.

Meanwhile, the crisis became increasingly serious as silver depreciated. In 1893 it had lost nearly half its value, and the rupee, which before the silver crisis was worth 27 pence at the official par of exchange, had fallen to about 14 pence. Thus, faced by the impossibility of any general concerted action to establish stable monetary relations between gold- and silver-standard countries, the latter made every effort to find a remedy.

So in this same year, 1893, British India made a first attempt to raise the value of its silver currency and to control its rate. The opinion of the day had not got beyond the crude notion, still widely held, which lumps together under the general term of "depreciation" both exchange phenomena and internal phenomena, sees in this depreciation a result of superfluity alone, and can find no efficacious remedy for it but contraction of supply. Thus if rupees had depreciated, the obvious cause was excess pro-

duction, and Mr. Walras, an economist and a mathematician, proceeding from this simple idea, endeavoured by means of accurate scientific calculations to establish a constant parity between Indian silver and British gold. The Indian Government, impressed by the same idea, decided, on the advice of an expert Commission, to adopt a plan of monetary reform based on principles which will emerge from the following account of its provisions.

The Indian law of the 26th June, 1893, can be shortly summarised. As a first step *it abolished the free coinage of rupees;* the new parity was fixed at 15 rupees to one pound sterling, or 16 pence to the rupee; in theory, individuals who had payments to make in India were allowed to obtain rupees at the above rate in exchange for pounds sterling; but the law contained no provisions to make this transaction possible in practice. Lastly, no provision was made for the conversion of rupees into pounds sterling with a view to payments in England by inhabitants of India.

The Government of India, in abolishing the coinage of rupees, certainly reckoned on the efficacy of contraction in gradually raising the exchange to the desired level. The normal development of business, and above all the native habit of hoarding, necessitated the annual coinage of rupees in large quantities in order to maintain the monetary stock of the country; in these circumstances, the currency could be rapidly reduced by merely suspending coinage for a few years. It was thought that the exchange could thus be raised, and with the same idea in mind it was hoped that the value of the rupee could be prevented from rising above the desired rate by resuming coinage at the right moment.

Nevertheless, considered objectively, the step taken by the Government of India will be seen to have a much deeper significance. *Under the system of free coinage which had been applied to the rupee, anyone having a debt to pay in India had always been at liberty to discharge it by sending silver bought at the market rate and having it coined at Bombay. Hence the price of silver, plus the costs of transmission,*

determined the variable import silver point in the exchange rate of the rupee, so that even at times when India had a surplus trade balance the exchange value of the rupee could not rise much above a rate given by the market value of the weight of fine metal which it contained.[1]

The suspension of coinage, or rather of the system of free coinage, was therefore much more efficacious than the mere process of monetary contraction, since its effect was immediate. It acted directly on the exchange by abolishing the silver point limit, which may have been unstable, but prevented the rate of the rupee from rising above the value of its content of fine metal. The first effect of this measure was likely to be that the rate of the rupee would separate from that of silver; and this is what in fact happened; the exchange value of the rupee henceforward rose above a rate corresponding to the price of the metal which it contained.

Thus in pursuing one object, *viz.*, monetary contraction, the Indian Government had attained another, and one which was much more to the point; they had destroyed the connecting link between the rate of the rupee and that of silver.

Moreover, after closing the mints to the coinage of rupees, the Government of India was obliged to provide persons owing debts in the country with another method of discharging their obligations. It was decided to accept pounds sterling, giving in exchange silver or paper rupees at the rate of 15 rupees to the pound, *i.e.*, 16 pence a rupee. This was therefore the new parity which, with the addition of the costs of transmitting gold coin, was to determine the import gold point, limiting the maximum value of the rupee to this rate whenever there was a surplus trade balance; and this was in fact a first step towards stabilising at the desired rate of 16 pence the exchange

[1] This shows that Walras need not have been concerned by the possible influence of internal causes on the value of the rupee, such as the number of rupees in circulation in India; for the rate of exchange was definitely bound up with that of silver for the reasons given, and depended on the world market for that metal.

value of the rupee whenever the trade balance of India showed a surplus.

Similarly, it is easy to understand that the possibility of providing the inhabitants of India with pounds sterling in exchange for rupees at the same rate would have sufficed to fix the *export gold point* when the balance of trade showed a deficit, and would thereby have consummated the stabilisation of the exchange. For, clearly, the restriction of exchanges within the limits of the gold points in gold standard countries is not due to the disappearance within the country of larger or smaller quantities of yellow metal, but to the fact that there is gold available for foreign payments. The constitution of this reserve and the fixing of a rate for the conversion of the internal silver currency only amounted in the end to a more systematic way of putting into practice the system which had been empirically set up in countries formerly bimetallist. These had retained an ample silver currency having unlimited legal tender; but by admitting gold alone to free coinage they had made it into the only currency which they used for the purpose of foreign payments. They had thus succeeded in maintaining their silver coin at its former legal parity in spite of the depreciation of white metal.

The Government of India, however, does not appear to have grasped the full significance of the provision for the conversion of pounds into rupees, which seemed a side issue; nor did it realise the effect which measures for the reciprocal conversion of rupees into pounds would have had.

Obsessed by its belief in the automatic effect of contraction and by a confused notion that contraction would increase at the same time the internal and external value of a currency, *i.e.*, its exchange value, its only concern, in spite of the protests of the commercial world, was to resist any new issue of rupees.[1]

Monetary contraction had at least the effect of raising

[1] In 1898 it even went so far as to consider the melting down of 240 million rupees in order to hasten valorisation and in spite of a general shortage of credit.

the discount rate, hitherto about the same as in Europe, to 12 or 13%, and provoked a serious shortage of credit. Nevertheless, the internal level of prices in India remained nearly constant except in 1898, when there was a sharp rise due to a bad harvest; it cannot therefore be reasonably concluded either that this contraction increased the internal purchasing power of the rupee or that it contributed to the development of exports, since *no fall* in internal prices occurred.[1]

Nevertheless, the trade balance of India, taken as a whole, continued to improve. The sale of "council bills"[2] was insufficient to ensure remittances from the mother country, and it was essential to procure gold. Thus, in pursuance of a law of January 1898, the Indian Government began to accept deposits[3] in gold in London, in exchange for which it issued paper rupees in India; *it is at this moment that the import gold point of the rupee became effective on the basis of the parity set up by the law of* 1893. Moreover, deposits rapidly increased, reaching 8·6 million pounds sterling from March 1900 onwards. *Finally it was decided, so long as the stocks did not fall below 5 million pounds, to place this gold at the disposal of inhabitants of India at the legal rate of 16 pence, if they had foreign debts to pay.* By this practice an export gold point was also fixed and thus the rate of exchange in India was finally determined.

[1] The purchasing power of the rupee, measured by the Indian index, is back in 1899 at the level of 1894 (index 121), after having risen slightly (113) in 1893 and then fallen sharply in 1896 and 1897 (133 and 171). Mr. Kemmerer, in "Modern Currency Reforms," is right in explaining this diminution in purchasing power, which happened in spite of contraction, by the bad harvest; he even adds, basing his conclusion on an index limited to ten articles and omitting grain and rice in his calculation of the average, that the purchasing power of the rupee must have increased but for this accident. Nevertheless, a rise in the value of the rupee in relation to the pound sterling cannot be attributed either to an increase of purchasing power which never occurred, or, more specifically, to the possible stimulus on exports of a general fall in prices which also never occurred.

[2] These were bills drawn on the Indian Treasury by the Government Agent in London in order to procure gold for the payment of home charges. In competition with commercial paper, council bills were a common means of settlement with India.

[3] At the Bank of England, on account of "Paper Currency Reserve."

In other words, a new monetary system was set up in this way which included a silver currency, to some extent fiduciary in character, and had the advantage of the gold standard for foreign payments. This is the system which the Americans have called the "gold exchange standard" and which we may describe as the "System of the Gold Reserve."[1]

Thanks to the gold reserve thus constituted and to the fact that the Indian Government issued drafts upon it at the same rate at which it was prepared to exchange pounds sterling for rupees, the value of the rupee could henceforward (from 1900 onwards) be stabilised at 16 pence, even at times, as, for instance, between 1907 and 1908 and again in 1914, when the trade balance of India showed a large deficit.

We thus observe the curious fact that the stabilisation of the rupee was carried out at the very time when the Government was abandoning its policy of monetary contraction and, having resigned itself to a resumption of the coinage of rupees, was issuing annually between 100 and 200 million new rupees, not counting those put back into circulation in exchange for gold imported from abroad.

The significance of the monetary reform thus carried out in India is obvious, and gives rise to the following practical conclusions, the theory of which is reserved for a later chapter. It is possible to stabilise an internal silver currency in relation to gold at an arbitrary rate superior to the market value of the metal contained in the coin, by giving it a semi-fiduciary character, if the following measures are adopted:

(1) The suppression, not indeed of all minting—for the Government is bound to maintain a currency adequate to

[1] This system, set up by the Indian Government as an experiment and in self-defence, realised on the whole Mr. Lindsay's project, which had been considered Utopian (see Kemmerer, "Modern Currency Reforms"). The law of 1898, under which a gold reserve had been constituted in London, was originally a provisional measure of secondary importance, but it was prolonged in 1900 and its main clauses became permanent from 1902 onwards.

internal requirements—but of the system of free coinage in order to sever the connection between the rate of the currency of the country and that of silver.

(2) The acceptance of gold in payments by foreign countries at a fixed rate corresponding to the parity between it and the internal silver currency.

(3) The constitution of a gold reserve, by means of gold coin and bullion or a foreign credit in some currency circulating at gold par, so that gold or foreign bills may be available at the same rate in the event of a scarcity of commercial paper, or, in other words, of an unfavourable trade balance.

It is evident that the essence of a monetary reform carried out on these lines is its effect on the exchange, in confining it within the import and export gold points as effectively as if there were a plentiful currency upon which to draw.

This very exact and straightforward method is not directly connected with variations in the internal stock of currency, and such variations, unless they are exceedingly wide, may be presumed to exercise no influence whatever upon its operation.

Only two conditions are essential during the period in which stabilisation at the fixed rate is to take place.

The first is that the gold reserve should be sufficient to counteract any considerable and prolonged deficit in the trade balance, *i.e.*, that a supply of gold or drafts payable in gold should always be available for the payment of debts abroad.

The second is that the price of silver should not rise above the fixed parity; otherwise there is a risk that silver coin, having a greater value abroad than at home, will be exported in spite of measures of prohibition, and that it will be necessary to forestall the drain on specie by altering the parity, thereby admitting a relative failure in stabilisation.[1]

[1] This in fact happened when silver appreciated after the war.

§ 2. *Imitations of the Monetary Reform in India.*

Although the theoretical significance of the monetary reform in India was imperfectly understood by its authors and its first imitators, its practical application was sufficiently grasped for analogous reforms to be carried out. The Government of the British Colony of the Straits Settlements, the American Government in the Philippine Islands, the Siamese Government, and later, in Europe, the Hellenic Government[1] were able to undertake them with success.

The system tentatively set up in India was carried out most consistently in the Philippines. The Philippine Coinage Act of March 2nd, 1903, supplemented by a local law, the "Philippine Gold Standard Act," of October 10th, 1903, contained the following provisions:

(*a*) The coinage of a new Philippine silver peso and the adoption of the gold peso—equal to one-half the American dollar—as the theoretical monetary unit; this was equivalent to fixing the parity of the new silver peso at half a dollar; demonetisation of foreign silver coin.

(*b*) The constitution of a gold reserve, and the creation of an Exchange Office at New York for the supply of drafts on Manilla at a rate corresponding to parity plus "gold point," and of another office at Manilla for the supply of drafts on New York at the same rate. The American reformers, impressed with the same ideas as their English predecessors, also believed in the efficacy of contracting and expanding the internal stock of currency automatically in order to maintain its parity with gold. They therefore decided in theory to withdraw from circulation the sums

[1] Greece, which had been on a forced currency since 1885, adopted the system of the gold exchange standard in 1910 by entrusting the National Bank of Greece with the task of converting the drachme into foreign currencies at par. Measures having been taken to ensure a sufficient portfolio of foreign currencies and credits, it has always been possible to keep the Greek exchange at par with the franc, and later with the dollar, through several war-periods until 1919. See Pharmakidis, "La Situation monétaire en Grèce avant et après la guerre," *Rev. Econ. Intern.*, Dec. 1922, and Damiris, "Le Système Monétaire Grec et le Change."

deposited at the Manilla Office for the purchase of drafts on New York, and only to put them back for the purpose of meeting drafts drawn by New York on Manilla. Sums paid into an Exchange Office were, however, allowed to be used to buy silver for minting pesos, and later a Philippine law of December 8th, 1911, gave authority for part of the reserve of exchange offices to be invested locally. Mr. Kemmerer ("Modern Currency Reforms," p. 373) objects to this provision as being contrary to the principle of automatic contraction. It should be observed, however, that this exception has in no way prevented the currency from remaining at par; nor is this surprising, *since the maintenance of parity results from the mere fact that the export and import gold points are secured by the regular working of the exchange office.* Variations in monetary stocks could only have dislocated the mechanism of stabilisation if they had been large enough to produce such economic upheavals as would have created a serious deficit in the Trade Balance, so that the impossibility of maintaining a fixed rate for the conversion of national currency into foreign currencies would have brought about the disappearance of the gold points.

§ 3. *Similar Monetary Reforms in various countries with paper currencies.*

Apart from silver-standard countries whose monetary relations with gold-standard countries had been disturbed by the disappearance of Bimetallism, there were certain countries on a paper currency which also suffered from fluctuating exchanges, *e.g.*, various South American States, and in particular the Argentine and Brazil. For just at the time when India was at last carrying out its monetary reform, the Argentine was attempting to stabilise the exchange ratio between its paper currency and gold coin by methods identical with those which we have just described.

A law of October 31st, 1899, fixed a legal ratio between the paper piastre and the gold piastre at 44 centavos (or hundredths of a gold piastre) to the paper piastre,

equivalent to 227·27 paper piastres for 100 gold piastres. This same law also created a *Conversion Office* for the purpose of receiving gold in exchange for new notes which it was to issue at the legal rate of 44 gold centavos to one piastre, and *vice versa* of supplying gold at the same rate in exchange for the currency notes.[1]

The right to repayment in gold was to have been extended to the notes of previous issues, which were thus to become convertible, and the Conversion Office was to have had the task of securing that *the entire fiduciary currency* should be convertible at a fixed rate.

But the Office had not been endowed in the first instance with a sufficient stock of gold to be able even to convert the fiduciary currency in quantities adequate to the exigencies of foreign payments; and, as in the case of India, it was only after a series of good years, when the Trade Balance was favourable and gold received from abroad was deposited in exchange for notes and accumulated, that the Office was in a position to operate. But *from* 1903 *onwards*, as the deposits of gold exceeded the withdrawals, the Conversion Office was able to supply any gold which might be required to meet a Trade deficit, and the exchange was thus *stabilised within the gold points corresponding to the new parity.*

The gold coin and bullion held by the Office exceeded 50 million gold piastres from 1904 onwards, rose to 102 millions in 1906, and, in spite of a serious crisis in 1907–8, reached 222 millions in 1912. The stock of gold, together with the reserve kept by the Conversion Office, henceforward provided the total paper currency with a cover of nearly 72%, comparable to that of the most reputable Banks of Issue; and the monetary system of the Argentine was to operate with perfect regularity until it

[1] The text of this law is to be found, *e.g.*, in M. Masson-Forestier's thesis "Les caisses de conversion et la réforme monétaire en Argentine et au Brésil," Paris, 1913, and a commentary by its author in M. J. M. Rosa's "La reforma monetaria en la Republica Argentina," Buenos-Aires, Lois, 1909. (See also M. Réné Théry's "Rapport des changes avariés et des règlements extérieurs," Paris, 1912.)

was exposed to the repercussion of the failure of other monetary systems as a result of the Great War.[1]

§ 4. *Comparison between the Conversion Office in the Argentine and the "Gold Exchange Standard" in the Far East. Identical principles and same essential conditions in the working of new methods as in the traditional system of the gold standard.*

It is easy enough after this brief analysis of the monetary system adopted in the Argentine to grasp the analogy between it and the Indian system of the Gold Exchange Standard,[2] and also the essential characteristics which it has in common with the traditional gold-standard systems.

As in India and in those silver-standard countries which had followed its example, the internal currency had suffered no change; but owing to the convertibility of the national currency into gold at a fixed rate and the existence of sufficient available yellow metal, gold was the monetary instrument and standard for foreign payments. Thus the Argentine also had independently discovered and adopted the "gold exchange standard."

Moreover, the fact that the currency, consisting as it did of paper and not of silver, was strictly fiduciary in character, was necessarily favourable to the success of this system; for there was no longer the risk that, with the appreciation of the metal, silver coin would acquire a greater commercial value than its legal rate, and that it would be exported at a price which would alter the exchange limits.

Again, although the conversion of notes into gold was not in theory subject to proof that the gold was required for payments abroad, with the continuous use of paper

[1] The causes and effects of subsequent changes in the monetary system of the Argentine will be described in the following chapter.

[2] In spite of this analogy, the reform in the Argentine does nor appear to have been inspired by the example of India, then little known; moreover, there was already a direct precedent for it in the exchange office set up in February 1867, which had worked satisfactorily until May 1867. (See esp. Subercaseaux, "Le papier monnaie," p. 392, and J. H. Williams' "Argentine International Trade under Inconvertible Paper," p. 29.)

money the habit was acquired of never demanding the reimbursement of notes in order to bring gold into circulation, and the Conversion Office *in fact* played the part of an exchange office, similar to the one at Manilla. For the same reason, anyone receiving gold from abroad was naturally led to deposit it with the Conversion Office, and withdraw in exchange the notes which constituted the normal internal currency.[1]

The monetary system of the Argentine may therefore be said to be identical with the gold exchange standard of the Far East except that the internal currency, consisting only of notes, *was entirely fiduciary in character*, and that the Conversion Office supplied gold on the spot to those who were obliged to export it, instead of issuing a draft drawn on a gold deposit held abroad.

But this last variation, which merely involves a question of form, also brings out the fundamental similarity between the traditional gold-standard systems and this *régime*, which contained nothing new except in some of the subsidiary methods used. Indeed the only difference was that, in the new gold-standard system, gold, instead of being partially brought into internal circulation, was reserved for any requirements in connection with foreign payments. But as the internal currency was freely convertible, this stock of gold could be used up to its last ounce for payments abroad, and *it is only the traditional effect of the gold points which stabilised the exchanges with all other countries having gold currencies*. For the right to obtain gold at the rate

[1] It may be pointed out that under this method the currency tends to expand when the Trade Balance shows a credit—one element in a favourable exchange position—and to contract in the opposite event. In fact, we have here another analogy with the system of the gold exchange standard in the Far East. This provision does not, however, appear to have been dictated by the desire to bring about an automatic contraction and expansion of the currency; for the originators of the system were more experienced and practical than the Anglo-Saxon theorists who described the gold exchange standard. It will, moreover, be observed that, without affecting the exchanges, the working of this system *more than doubled the fiduciary currency of the Argentine in the decade following the creation of the Conversion Office*, a rate which seems more than proportional to the increase in transactions.

given by the definition of the monetary unit is the primary cause in preventing the value of drafts on foreign countries from rising above par or above the fixed parity beyond the cost of exporting the gold, *i.e.*, the export gold point.[1]

Conversely, gold coin, once it is imported from abroad, can only represent a given number of monetary units, and consequently the selling price of drafts on foreign countries, quoted in the national currency, cannot fall below a rate given by the ratio between the value of the weight of gold imported and that of the monetary units of home currency which it represents, less the costs of import (import gold point).[2] Thus, so long as the Conversion

[1] A distinction is commonly made between the idea of par, *i.e.*, the ratio between the values of two currencies of the same metal, exactly equivalent to the ratio between the weights of their respective contents in fine metal, and parity, a legal exchange ratio between currencies different in kind, such as gold and silver, or gold and paper. Parity is an arbitrary relation, whereas par is the necessary result of the respective weights of fine metal, *given the definition of the monetary units involved.* But this definition is itself quite arbitrary. Similarly, it is always arbitrary to make a piece of paper represent directly or indirectly a certain weight of gold; for instance, the United States exchange remains stable in relation to other countries with a gold currency within the limits of the gold points which rise above or fall below the value of the dollar at par. The exact meaning of this statement is that the notes with a face value in dollars, which form the bulk of the United States currency, are convertible into a constant weight of gold, this gold in turn representing by definition a constant number of the monetary units of different countries, so long as conversion is actually possible. Similarly, when the paper peso of the Argentine was fixed at 44 gold centavos, it represented a certain weight in gold, and this weight in gold, although it doubtless corresponded only to $\frac{44}{100}$ of the former weight of the peso, *was none the less strictly defined, and also corresponded to a fixed number of the monetary units of various countries.* The fact that a paper monetary unit does not correspond in nominal value to the former gold monetary unit implies no essential change in the system. It is true that in making the paper peso equal to 44 gold centavos the foreign exchanges were reconstituted below the *former* par, but a new par was set up with the new peso, representing $\frac{44}{100}$ of the weight of gold in the old one.

[2] Here again the difference in procedure between countries with a gold currency and those on a gold reserve is superficial; in the former a fall in the rate quoted in home currency is limited by the fact that if drafts on foreign countries were offered at too high a price, gold would be imported, *recoined*, and put into circulation in the form of coin representing a number

Office in the Argentine received gold and supplied 227·27 paper pesos in exchange for a weight in gold corresponding to 100 former pesos, the exchange could obviously not rise above this rate by more than the cost of transmitting the gold; for anyone desiring to obtain Argentine currency, whether a foreign debtor or a national of the country owed money from abroad and wishing to convert his credit into home currency, would have no reason for buying a draft on the Argentine at a higher price in gold, or for selling a foreign bill at a lower price in paper pesos.[1]

§ 5. *Monetary Reform in Austria-Hungary.*

While a certain number of countries outside Europe had thus attempted more or less consistently to reform their monetary systems by using the gold standard but without having an effective gold currency, other countries,

---

of internal monetary units *which is fixed*, because it is in terms of gold that the unit is defined. The possibility afforded by an institution like the Conversion Office in the Argentine, of obtaining in exchange for gold a fixed amount of home currency in the form of notes, leads to exactly the same result; it is another way of turning foreign gold into currency on the basis of a par corresponding to the real or hypothetical contents of gold in the home currency.

[1] The import gold point ceased, of course, to be effective if foreign countries prohibited the export of their gold; as we shall see later, this is how the working of the Conversion Office in the Argentine has been impeded since the war. But it will be seen (Part III, Ch. II) that this difficulty is not insuperable.

The example of the Argentine had been followed in 1906 by Brazil, where a Conversion Office was created. It differed, however, in several respects from the Argentine institution. In the first place, it only converted its own notes, thus leaving inconvertible a part of the currency, but it had a guarantee fund which was of assistance when it began its operations. Secondly, the amount of notes to be issued in exchange for the gold received was limited—320,000 contos or 20 million pounds—and in 1910 this prevented the import gold point from being effective, and caused the Office to suspend operations for the first time. For a more detailed account see the above-quoted works by Subercaseaux and Masson-Forestier, which contain a fairly full bibliography, and lastly Souza Reis, "O padrâo de cambio ouro como soluçao do problema monetario brasilieiro," Sao Paolo, 1923.

such as Japan and Russia, had undertaken a radical reform of their monetary systems. They too accepted the monetary depreciation which had taken place, but introduced gold into their home currencies or into the holdings of their Banks of Issue in sufficient quantities to enable them to adopt the gold standard, and to stabilise their exchanges, without the help of any special machinery for conversion.

Special mention, however, must be made of the case of *Austria-Hungary*, where monetary reform, although conceived on this traditional plan, *had not been carried to a conclusion, and therefore* produced a *régime* which was, *in fact*, exactly analogous with that of the gold exchange standard. By a law passed in 1892 the gold crown had been made the monetary unit of the Empire, and, in order to withdraw the notes of former issues and restore the monetary system of the dual monarchy, the State had obtained foreign loans the proceeds of which had been imported in the form of gold bullion. The way had thus been opened for inaugurating a reliable gold currency;[1] but the Bank was not bound by law to reimburse its notes, and the public, accustomed to paper, allowed such little gold as was in circulation to flow back to the Bank.

Thus the Bank was in law and in fact exempt from guaranteeing the *internal* convertibility of the note issue; on the other hand, it could keep nearly the whole of the gold in the country for foreign payments; and it perfectly fulfilled the task of keeping the exchange within limits approximating closely to the gold points, by supplying without commission either bills previously bought in the open market, or gold for foreign payments. Thus the Bank was pursuing with all its implications the policy of handling foreign exchange, by means of which certain Banks of Issue attempt to control the market. And by pushing this policy to its extreme, the Bank succeeded in

[1] Before the reform of 1892 the gold stock of the dual monarchy was estimated at about 200 million gold crowns, of which 160 millions were held by the Bank. In 1910, the gold currency reached 1670 million crowns, of which nearly 1400 millions were held by the Bank. (See "La réforme monétaire en Autriche," by Dub, *Revue Economique Internationale*, 1910.)

playing the double *rôle* of the Exchange Office at Manilla, which supplied drafts on New York at a fixed rate, and of the Conversion Office in the Argentine, which accepted and supplied gold for international payments.[1]

This last example finally demonstrates how, by a series of changes in method, the traditional gold-standard *régime* evolved into the more modern systems which secure for national fiduciary currencies stable exchanges based on gold, the standard and instrument for international payments.

§ 6. *Results of Monetary Reforms. Stable Exchanges almost universally restored at the beginning of the 20th century on a gold basis.*

Thus during the last years of the 19th, and the opening years of the 20th century, most countries had successfully overcome the monetary difficulties which had resulted in the first place from putting fiduciary currencies into circulation, and, secondly, from the abolition of Bimetallism and the disappearance of a fixed exchange ratio between gold and silver.

The practice of contracting foreign loans, which had become very common at this time, had furthered a new distribution of the existing stocks of gold, whereas in many cases the adoption of the gold reserve system had enabled the countries concerned to put the small stocks of metal which they had at their disposal to the best use, and to place their exchanges on a gold basis.

Under this system international monetary relations were likely to remain stable in normal times, or rather in times of peace, even in the event of a crisis. For any country having at its disposal an internal convertible currency, and machinery for conversion well established either by law or custom, could always restore equilibrium by means of a foreign loan if the Trade Balance showed a deficit over too long a period. New gold-producing

[1] The Austro-Hungarian Bank, by undertaking to collect the foreign loans, managed to meet its obligations even in times of difficulty.

countries paid at this time the dividends due on capital lent by the Old World in the form of shipments of yellow metal to Europe. The majority of the older countries, enriched by centuries of trade and foreign investment, found themselves each year with a favourable balance partly in the form of imports of gold. A part of this balance was wiped out, however, by foreign loans to less developed countries, which often had a deficit in their Trade Balance and used this method to balance their accounts with foreign countries and get together a new stock of metal.

But it must be remembered that the monetary stock of any one country only contained a small proportion of gold, which was the only really international currency; a general dislocation of international Exchanges was bound therefore to create monetary disturbances which could only have been avoided by making the entire circulation of money international.

CHAPTER V

THE MONETARY CRISIS SINCE THE WAR OF 1914

§ 1. *Consequences of the world-war from the monetary point of view. Inconvertibility of currencies. General disappearance of free export, and in some cases of free import, of gold. Disappearance of gold points and instability of exchanges.*

THE war of 1914–1918 resulted in a general monetary crisis. As in the preceding chapter, no attempt will be made to examine the monetary problems of each country in turn. But it will be possible to outline the chief features of this period of general crisis, and to illustrate them by a few examples.

The Great War not only affected the monetary systems of the belligerent countries; it also affected many neutrals, even among the more distant; and it has culminated in a state of general exchange instability which directly or indirectly concerns the whole world.

The beginning of hostilities caused many other countries besides the belligerents to give forced currency to the note issue either officially or in some disguised form, and to prohibit the export of gold. In most cases, this step was taken at once even in countries more or less distant from the seat of war, such as Scandinavia, the Argentine and Brazil, where the Conversion Offices were relieved of the obligation to give gold in exchange for notes.

Even in most countries where notes have again become redeemable at home, *e.g.* Switzerland, the export prohibition has survived to this day, and thus the convertibility of paper can have no effect upon the exchange position.

It is clear that wherever it was imposed the prohibition to export gold necessarily brought about the disappearance of the export gold points, and this made it possible for

the national monetary unit to depreciate to an unlimited extent in relation to gold. A loss on exchange did not, however, occur everywhere at once. In France, for instance, the exchange remained normal during the first months of the war, and the franc for a short time even went slightly to a premium. This is explained by the fact that France was repatriating capital during this initial stage and had no debit balance to meet abroad.

Nevertheless, the inconvertibility of notes and the prohibition to export gold formed the starting point of the exchange crisis, since unlimited dealings in foreign currencies could thenceforward take place at a rate below par; thus the slightest deficit requiring settlement was bound to provoke it. And so after November 1914 the mark lost 10% on New York market, and had fallen by 20 or 25% in the first quarter of 1916. During the same period the value of the mark had depreciated by 24 to 35% at Amsterdam, and the Austrian crown by more than 40% at Geneva. Again, the Russian exchange had fallen in 1915 by 18 to 33% even on the Paris market. The Italian lira had lost about 8% in Paris, 18% in Switzerland and 30% in the United States. The French franc, which, as has just been observed, had withstood the effects of forced currency for some months, came to be quoted in 1916 at 12 or even 14% discount in London, 16% in New York and Geneva, and 25% in Amsterdam. As we shall see later, arrangements were made between the Allies in order to establish with the help of certain neutrals a united front on the exchange market, and thus prevent excessive depreciation of the currencies of countries most directly implicated in the war by shifting part of the burden on to the others; hence, the United States having also temporarily suspended the free export of gold,[1] the dollar was quoted at a loss in certain neutral markets.[2]

[1] Gold *was* exported in spite of the prohibition, in the form of contraband, but at a very heavy price. See Tetrode, "La Banque néerlandaise pendant la guerre," *Rev. d'ec. polit.*, November 1920, p. 675.

[2] It should be observed that the depreciation of the dollar in relation to

An even more remarkable event was the prohibition, not only of the export, but also of the import of gold; this had brought down the import gold point, and thus, when the Trade Balance was favourable, caused the national currency to rise above par. This was done in Sweden in 1916 at the request of the State Bank,[1] and seems to have been the first step of its kind deliberately taken in a country with a gold currency.[2]

It should be observed, however, that the prohibition to the export gold in one of two countries, between which an exchange rate is quoted, is equivalent to an import prohibition in the other from the point of view of the exchange rate between the two countries. Hence this measure remained without effect except in a few countries such as Holland, where the export of gold was still permitted.[3] But in the end it divorced the national currencies involved from all others, even from those on a gold basis.[4]

---

certain currencies, *e.g.*, the Dutch florin, had already occurred before the entry of the United States into the war.

[1] Mr. Cassel points out in his "Money and Foreign Exchange after 1914" (English translation, Constable 1922, p. 79) the rather petty reasons which were put forward by the Riksbank. He did, however, agree to this step being taken on the ground that the stock of gold was likely to arrest the rise in prices—a result which would seem likely to occur, in any case, because foreign goods would be bought more cheaply owing to a more favourable rate of exchange.

[2] It should, however, be pointed out that Brazil, by limiting the amount of gold which the Conversion Office was entitled to receive, had really taken a similar step, which enabled the exchange to rise above the parity of 15*d.* fixed in 1906. Among countries with a silver currency, French Indo-China applied the same system; for it has a silver currency, but without free coinage and without allowing foreign coin to enter. See, on this subject, the author's "Problème monétaire dans l'Indo-Chine française" (*Rev. Econ. Internationale*, April 1921), and M. Oualid, "Le privilège de la Banque d'Indo-Chine et la question des Banques coloniales," p. 124. The Swedish example was followed by other countries; from 1917 onwards Spain only accepted American gold at a rate below par.

[3] The Bank of Holland, which was not obliged to allow the export of gold, nevertheless made such payments as it thought necessary, and had some difficulty in inducing the Bank of Sweden to accept Dutch gold in respect of justifiable payments at the mint par of 2·480 crowns per kilogram of fine metal.

[4] See *infra*, Part II, Ch. II, on the theoretical implications of this

To these causes of monetary instability and dislocation of the exchanges was added yet another when, at the beginning of 1916, silver began to appreciate rapidly. For countries with a silver currency which had adopted the gold exchange standard had fixed the new parity at a point which was not far from the rate of exchange ruling at the time when their monetary reform took place; if silver was exported their exchange was liable to rise above the gold point corresponding to the official rate and as high as the silver point corresponding to the market price of silver. Even British India, in spite of having stabilised the rupee at the fairly high rate of 16 pence, was affected by this unexpected event. For not only was silver exported in spite of prohibitions, but in order to make necessary payments in India and meet internal currency needs in a country which, as is well known, had an enormous capacity for absorption, silver had to be bought at a much higher rate than 16*d*. The difference between the purchase price and the legal parity was due both to the appreciation of white metal on the American market and the depreciation of sterling in relation to the dollar. After trying various palliatives, the Government of India decided to alter the official parity of the rupee, and finally, under the Act of September 8th, 1920, fixed it at two shillings to the rupee or ten rupees to the pound, a rate equivalent to a ratio of 1 : 15 between gold and silver.

Such are the circumstances, briefly summarised, in which there arose and developed a world-wide monetary crisis from which we have not yet emerged. For even between a few countries such as the United States and Japan a mutually stable exchange on a par basis has only just been re-established.

After this short summary, we shall have to examine successively the exchange policy pursued during the war;

---

observation, which will show that, if a common basis can be given to several national monetary systems, this is not only due to their respective monetary units representing a given weight of metal, *i.e.*, a certain quantity of the commodity, but also because under the system of free coinage the passage of gold from one country to another allows one monetary unit to be converted into another at a fixed rate.

the aggravation of the crisis which has since showed itself; the phenomena to which it has given rise, and, lastly, the first efforts made with a view to returning to a less abnormal state of affairs.

§ 2. *The exchange policy of the Allies during the War. Union of sterling and francs with the United States dollar.*

In spite of the serious world-wide disturbance in economic life due to the dislocation of trade and of production and consumption during the war, this was not the period in which the exchange crisis was most acute in many countries.

On the side of the Allies, the principle of pooling resources had been applied to finance; the exchange crisis was considerably lessened through the credits opened by those belligerents which were less injured economically and financially, as also by means of agreements with certain neutrals. France granted loans to her continental allies; England in turn opened credits for her (April 1916). Thus the franc, which had lost ground much more quickly than sterling after April 1915, followed a nearly parallel course from April 1916 onwards. France and England also provided all their allies with liquid assets abroad in large amounts by exporting a small portion of their stock of gold and above all by progressively disposing of the enormous holdings of foreign securities of their capitalists.[1] Later they obtained credits in the United States, first from the banks, then, after the entry of America into the war, from the American Treasury. Finally, large credits were granted by certain neutrals for the purchase of supplies. In particular, a

[1] Every effort was made to induce their nationals to place foreign securities at the disposal of the Governments. Measures were taken to this end by the British Government at the end of 1915, and by the French Government early in 1916 (notice in the *Journal officiel* of May 5th, 1916). Measures were also taken which have not yet been entirely abolished, particularly in France, to prevent the export of capital for the purchase of foreign securities or for any unauthorised purpose (law of April 3rd, 1918, still in force owing to successive prorogations).

credit of 200 million pesos was opened in 1918 by the Argentine, and one of 350 million pesetas by Spain.

With this assistance, the exchanges of the Allies, after having fluctuated in the first two years as we have shown, soon became stable in relation to each other and to the United States dollar.

"The London Exchange in New York was pegged in the autumn of 1915 and the peg was kept in until March 1919. The mechanism by which this was brought about was the appointment by the British Government of fiscal agents in New York—J. P. Morgan and Co.—with authority to buy all exchange offered on London at 4·765. Morgan and Co. had large credits, some of which the British Government established by the negotiation of loans and the sale of American securities before the United States went into the war, and others which the United States Treasury subsequently placed at the disposal of the British Government."[1]

The French Government followed a similar course. It made use of credits opened by the Treasuries of the United States and Great Britain to supply the Bank of France with drafts placed by the latter at the disposal of certain privileged classes of importers, the remainder being used to influence the open market. Thus from 1917 there came to be two rates of exchange, the official rate fixed by the Bank and the market rate.[2] But owing to the Bank's action the two rates were not widely different, and the French exchange may be said to have been more or less stabilised in the last phase of the war by a sufficiency of foreign credit and an adequate machinery for conversion. With resources adequate to its needs, the Bank of France pursued a steady but not too rigid policy of

[1] *Currencies after the War*, published by the Secretariat of the League of Nations, London 1920, p. 188. From the first half of April 1917 onwards Congress authorised advances to the Allies up to a total of 3 milliard dollars. This assistance was all the more timely as private credits were on the point of exhaustion.

[2] This twofold action is explained by the necessity of supporting the exchange as a whole without giving the free market the benefit of unlimited sums at a fixed rate of exchange for payments which in war-time might have lacked justification.

manipulating the exchange market, played a part similar to that of a Conversion Office and obtained much the same results. Thus, in spite of an enormous deficit in the Trade Balance, which had been very little reduced by strict limitation in the freedom of import and by the arrangement between the Allies to make foreign purchases in common,[1] the fall in the Allied exchanges had been arrested with the help of the United States at the moment when it was in danger of becoming more rapid. The fluctuations of the opening phase gave place to a long period of stability *in relation to the dollar*. The latter, it is true, had to bear the burden of the arbitrage, by means of which it was used for payments to neutrals; it fell promptly and soon stood lower than the franc had stood earlier in the war. Nevertheless, even in relation to neutral exchanges, its depreciation was restricted during the entire period of hostilities within limits which now seem fairly narrow; for the loss on exchange of the dollar did not exceed 24½% in relation to the Swiss franc shortly before the end of hostilities (June–August 1918). After America's entry, sterling hardly lost more than 2%, the French franc 6% in relation to the dollar. During the entire war-period the maximum loss on exchange of the French franc was about 10% with regard to sterling, 12% with regard to the dollar, 30% with regard to the Swiss franc and the Dutch florin, and 45% with regard to the Swedish crown. The Italian lira did not fall by more than 60% with regard to the Swiss franc during the last and severest phase of the war. The rouble alone, being insufficiently supported on the Allied markets, followed up to the middle of 1917 a course approximating to that of the Austrian crown, which it then overtook, ultimately losing as much as 80% on the Geneva market.

[1] The surplus exports of the United States, almost entirely sent to the European belligerents, have been estimated at more than 7 milliard dollars for the years 1917 and 1918 alone. The surplus imports of France during the war have been estimated at 70 milliard francs, but were partly counterbalanced by the disbursements of the Allied armies, and partly paid for by the sale of securities.

§ 3. *Exchange policy in Germany and Austria during the War; the Exchange Control Offices (Centrales de Devises).*

In the case of Germany and her Allies, the exchange crisis, beginning with the disappearance of the export gold point, declared itself earlier, *i.e.*, at the outbreak of the war, and took a more serious form. By the end of 1914 the mark was losing 10% and the Austrian crown 16% on Geneva, while francs and sterling stood slightly above par. After remaining fairly stable for some months with a loss of 12%, the mark fell from November 1915 onwards until it had lost 20% early in 1916. After a respite it lost 34% by the end of that year, and 50% by the middle of 1917. Finally, after a sharp recovery at the time of the Russian armistice, the loss stood only at 30%, then once more reached 46%, and was back at 40% on the day of the general armistice. The Austrian crown described a nearly parallel curve 15 points lower.

On the whole, except for a sharp recovery in the mark and in the Austrian crown at the cessation of hostilities with Russia, the exchanges of the Central Powers had suffered almost continuous depreciation from the outbreak of war until the armistice with the Western Allies, when they recovered for a short time. But from 1915 in the case of France and Italy, and from 1917 in the case of the Allies as a whole, the depreciation was nearly as continuous. The essential difference between the two curves of exchange rates—that of the Central Powers and that of the Western Allies—lies in the fact that the former shows on the whole a much greater depreciation. After 1916 the mark lost about 10% more than the French franc, and nearly 30% in 1917. It is true that this difference was much reduced as a result of the rise in marks at the beginning of 1918, and never exceeded 15% during that year.

The difference in average depreciation during the period of hostilities is explained by the difficulty Germany

experienced in obtaining foreign credits. She was obliged to support Austria, Bulgaria and Turkey, but was far from having at her disposal, like France and England, enormous quantities of foreign securities.[1] The United States failed her just at the moment when the American Treasury opened unlimited credits to her new Allies, whose financial resources were beginning to fail.

It is true that with her powerful industry and the raw materials which she obtained in Central Europe, Germany was in a position to provide amply for the wants of herself and her Allies in war supplies, without becoming too dependent on neutral markets. Nevertheless she experienced great difficulty in paying for her imports, and the credits opened in her favour by her smaller neighbours were not adequate to her needs. She therefore made every effort to support her currency, not only by reducing imports to a minimum and prohibiting the transfer of capital abroad, but also by putting to the best use such stocks of foreign currencies as she possessed. By an ordinance of January 28th, 1916, supplemented by another of February 9th, 1917, a Central Foreign Exchange Office (Devisenzentrale) was set up to which foreign bills were to be handed over, and to which all those who wished to obtain direct or indirect media of exchange were to apply. All orders for the purchase or sale of foreign exchange were to be sent through one or other of the twenty-six banks which were admitted to form part of the Office.

The Foreign Exchange Office thus enjoyed a compulsory monopoly of exchange and was therefore in a position to peg the rate more or less arbitrarily; for it could buy up all the available exchange, and thereupon distribute it without being obliged to adapt the rate, which it fixed itself, to the ratio between supply and demand. The rates of the mark to the florin or of the mark

[1] An estimate commonly accepted places Germany's pre-war holding of foreign securities at about 25 milliard marks; but as a large proportion could not be used, being in enemy hands, Germany had barely one-third of this sum at her disposal and, even so, only took belated measures to mobilise her securities.

to the Swiss franc fixed on Berlin differed considerably, however, from those which prevailed on the free market at Amsterdam or Geneva, where bills on Germany drawn in marks were paid for in florins and Swiss francs respectively, and, in view of the monopoly of the Foreign Exchange Office, arbitraging could not come into play in order to bring the rates to level time. With the object, therefore, of creating a single rate for the mark at the level desired by the Office, German exporters were urged not to allow their foreign clients to discharge debts by purchasing and transmitting bills on Germany drawn in marks, but rather themselves to draw bills on their clients in foreign currencies, which would be negotiated at Berlin. This method was all the more justifiable in that neutral exporters usually required German importers to settle in neutral currencies and rarely negotiated bills drawn in marks.

The creation of the Foreign Exchange Office had in any case the advantage of giving German importers, who had contracted to pay in foreign currencies, the means of obtaining these currencies at a comparatively stable rate, leaving the exchange risks on the neutral market to be borne by foreign dealers who covered the bills drawn in marks. The Office may further be considered to have contributed to supporting the rate, even abroad, since the mark will be seen to have remained fairly stable on foreign markets after the Office was created and up to about the end of 1916. *But the centralisation of foreign payments could no longer send up or even maintain the rate of exchange when the available funds thus collected ceased to be sufficient for requirements.*

§ 4. *Aggravation of the Exchange Crisis after the War.*

Contrary to the hopes which were formed at the Armistice, when all the exchanges including the mark, the Austrian crown and the rouble had improved, the cessation of hostilities was not to put an end to the exchange crisis. It is true that the dollar was soon back at

par and even stood at a premium on the Geneva market with regard to the Swiss franc,[1] and sterling, after a fall at the end of 1919, had also recovered. The French franc and Italian lira, on the contrary, fluctuated for a long time, their curves being nearly parallel, and soon depreciated to a point unknown during the whole war. In 1919 the franc was quoted at Geneva with a loss of more than 50% at the beginning of the year, and throughout that year its depreciation remained between 50% and 60%, while the Italian lira fluctuated round about 10% or 15% less than the franc and sometimes even lower. Hence, in relation to the dollar, which had again become the typical currency freely exported and imported and circulating at par, the franc depreciated by as much as 70% in 1920. It is well known that after numerous fluctuations it has ended by losing much more still. For the dollar has been quoted in Paris at 28·13 francs (the par of exchange being 5·18), and sterling, which has nearly reached par, has risen at the moment of writing to 120 francs (maximum of March 10th, 1924).

But even so, the depreciation of the French franc is very small compared with that which occurred in allied countries in Central Europe, whose currencies in turn fell heavily in relation to the French franc. In 1923 the Roumanian leu remained for a long time at about 8 centimes, after having fallen still lower, and finally rose above 10 centimes; and the Polish exchange suffered infinitely greater depreciation.

The exchange curves of the defeated countries were at first, in 1919 and 1920, approximately parallel to those of the French and Italian exchanges; the crown depreciated by more than 95% at Geneva, and the mark by more than 90%, at the end of 1919, and remained at the same level throughout 1920 and even at the beginning of 1921. But a fresh fall occurred after the Schedule of Payments

[1] It should not be forgotten that in most countries gold cannot even yet be freely exported; this explains why exchange fluctuations, going far beyond the gold points, should have persisted even in countries with a gold circulation.

had been presented to Germany, and 100 marks, which were still being quoted in Paris at 22 francs (monthly average for April), fell below 19 in May, gradually reached 14, 13 (in September), and then suddenly, after the request for a moratorium, touched 9·6 in October. Finally, after remaining round 3·8 in May and June 1922, the exchange fell below 1 franc in September of the same year, and below 10 centimes in February 1923 after the occupation of the Ruhr. Even so, the rate of 6 centimes reached at this time was only the starting point for a new course of depreciation. For after having been supported by the Reichsbank until about April, the mark thenceforward, in spite of intermittent attempts to support it, suffered an almost continuous depreciation, of which the following table gives some idea:

	Paris rate of the mark in francs.	New York rate of the mark in cents.
April 17th, 1923 .	0·0007	0·0044
July 1st . . .	0·000125	0·0006
August 1st . .	0·0000175	0·00009
September 4th . .	0·000001	0·000007

This last rate is equivalent to more than 58 million marks to the pound at Berlin, and nearly 13 million to the dollar. On October 10th the dollar was worth 871 million marks (the depreciation of the latter exceeding that of the rouble), and on October 22nd 43 milliards, and at the beginning of 1924 and after a more rapid decline [1] finally reached a level of 4210·5 milliards, at which it remained fairly stable. (For the circumstances of this stabilisation and the Rentenmark, see § 8.)

§ 5. *Causes of the aggravation of the crisis in the Allied countries.*

It becomes fairly clear why the exchange crisis was aggravated in countries where it occurred, if we confine ourselves to considering it in outline. Among the Allies,

[1] Valued in gold pfennigs, the mark went from $2\frac{1}{4}$ at the end of 1921 to $\frac{6}{100}$ at the end of 1922, and to $\frac{1}{10,000,000,000}$ at the end of 1923.

France, with an enormous surplus of imports to pay for,[1] suddenly lost the benefit of the credits opened by the British Treasury (end of 1918) and by the American Treasury (March 1919). *Thereby the regulating machinery, which had consisted in the issue of bills at a more or less fixed rate with the help of these foreign credits, and had bound up the franc with sterling and dollars since* 1917, *disappeared.* These large credits which supplied the exchange market were succeeded by private credits, which were, however, insufficient, chiefly because some of those opened during the war expired, and had either to be paid off or renewed. The French exchange seems therefore to have been supported mainly by the sale of securities or by speculative credits[2] opened by foreign capitalists, who with every fall in the franc discount a recovery in the near future, and, by the purchase of credits on France or by the sale of dollars, *i.e.*, of bills drawn in Paris on New York, effect transfers of capital in the hope of repatriating them later at a more favourable rate.[2]

Capital temporarily invested in France or left on deposit in the hope of better times is still estimated at several milliards of francs. Speculation seems to have helped the French exchange considerably in surmounting the difficulties of the period between the withdrawal of the British and American official credits and the recovery of the economic situation, which was gradually brought about partly by the restoration of equilibrium in the visible

[1] According to French official Customs statistics, the deficit in the Trade Balance was 61 milliards between August 1914 and December 1919, and 46 milliards between January 1919 and December 1922. Whatever the margin of error in Customs statistics for such an abnormal period, and whatever the corrections which may be necessary as a result of factors which are not susceptible of being statistically recorded, these figures give some idea of the order of magnitude of the deficit to be met with the help of international credit.

[2] The method of obtaining these credits has been described by M. Décamps in particular in "La Crise des Changes." Speculators understood so well the significance of this change of system that, as M. Décamps says, President Wilson's message of December 1919 that Europe would in future have to do without American assistance caused sterling to rise in 48 hours from 41 to 45 francs, and the dollar from 10 to 12 francs.

Trade Balance and partly by the expenditure of foreign tourists.

But in spite of several recoveries, particularly between May 1921 and May 1922, the French exchange in 1923 and 1924 dropped to the lowest point it had ever reached. This aggravation of the exchange crisis in France does not appear to have been directly caused by economic factors. For the recovery of foreign trade, stimulated by a satisfactory relation between internal and external prices, was followed by a serious attempt to balance the Budget. The note issue, which had indeed risen from 30·5 milliards in the middle of November 1918 to just over 39·5 milliards in November 1920, has since been reduced to about 37 milliards. Therefore the economic and financial factors on which speculators habitually form their judgment of the future were not such as to explain an increase in the depreciation of the franc. It becomes more and more apparent that speculators were influenced by political considerations. In 1920 they paid particular attention to the attitude of the American Government and to any indications of its intentions to suspend or resume financial assistance to Europe. Until the beginning of 1920, the hope which was long entertained that official credits would again be opened seems to have partly counterbalanced such influence as a prolonged deficit in the Trade Balance, a persistent rise in prices, and the great uncertainty in the Budget position may have had on the French exchange. Later speculation appears to have discounted the payment of reparation. For the French exchange improved considerably, the dollar falling from 13·84 francs to 11·97 francs (monthly averages for April and May 1921), whereas the German exchange fell correspondingly. Speculation was then guided by the alternating agreements and disagreements between the former Allies, which were reflected in alternating confidence and mistrust regarding the settlement of the international obligations arising out of reparation and interallied indebtedness. It was the significance given to political events by international speculators, especially in London and New

York, which seems to have brought about the most violent fluctuations in the French exchange up till 1923; the prospect of payments falling due at certain periods, and especially at the end of 1920 as a result of abnormal imports or of certain reimbursements, exercised a considerable but less permanent influence at certain times. On the whole, the French exchange during the post-war period, mainly resting on speculative credits, was influenced rather by the imponderable factors in the forecasts of foreign exchange dealers, who were more preoccupied with the future than the present, than by the substantial elements of the Balance of Payments.

No doubt this also applies to the Italian exchange, which followed the same course as the franc for a long time, although at a much lower level; but from the end of 1922 onwards their connection ceased, and lire showed a tendency to rise, whereas the depreciation of the French exchange became more marked. The Belgian exchange, on the other hand, after having long been at a somewhat higher level than the French franc, has from then onwards usually preceded the latter in any fall.

§ 6. *The Monetary Crisis in Germany and its characteristics. Prices follow the exchange, but are fairly independent of the note issue.*

The fate of the exchanges in the defeated countries, and in particular in Germany, where the mark followed its course to its ultimate collapse, seems also to have been decided by the psychological elements in speculation. Thus the mark, which at first had also been supported by speculative credits, was gradually forsaken as the disappointed speculators sold out and cut their losses. The chief stages of depreciation coincide with the political events which affected Germany, particularly those connected with reparation payments.[1] But the fall in the

[1] Apart from the sharp fall which followed the presentation of the Schedule of Payments, the breakdown of the Franco-British negotiations in August 1922 regarding the request for a moratorium, the decision regarding Upper Silesia in October, and, lastly, the occupation of the Ruhr, should be noted.

German exchange should be attributed partly to a much more "physical" and immediate cause, *viz.*, a flight of capital which completely upset the Balance of Payments. At first this flight was no doubt deliberate, and in the main took the form of leaving on deposit abroad amounts in foreign currencies corresponding to a considerable proportion of exports, instead of throwing bills on to the exchange market. Thus, while foreign countries were showing their confidence in Germany and were counterbalancing the deficit on the German market by purchasing German exchange or even notes, certain exporters systematically left the proceeds of their sales in safety abroad with the certainty of credits in some sound currency, and in exchange left foreign speculators with unstable German currency. Thereupon a flight ensued which was the result of panic. For when a currency loses from day to day both its exchange value abroad and its purchasing power at home, it can no longer serve as an instrument for saving, and anyone wishing to save will look about for some stable foreign currency; thus quite independently of the requirements for foreign payments a progressive demand for foreign bills or even notes arises, which is bound entirely to overthrow the Balance of Payments. In this way the demand in Germany for foreign currencies by all classes of the public was necessarily a decisive factor in the downfall of the mark, certainly far more so than German reparation settlements, even though the Government was not very skilful in its method of obtaining the foreign exchange for its first payments.

It should also be pointed out that the German Government had not taken the necessary steps after the Armistice to balance the Budget, and had had recourse much more than was reasonable to new issues of paper money. The note issue, which stood at 32½ milliards about the end of 1918, *i.e.*, 22·187 million notes issued by the Reichsbank, and 10·242 by the loan banks, reached 49½ milliards at the end of December 1919, *i.e.*, 35·698 millions for the Reichsbank and 13·781 for the loan banks, nearly 81 milliards, *i.e.*, 68·805 and 11·975 in each case, at the end

of 1920, and 122 milliards at the end of 1921. It might be supposed that, given this complete absence of assets, the German financial system must have had an unfavourable influence on the value of the mark; but after having depreciated by 50% at Amsterdam at the end of 1918, and by nearly 90·8% at the end of 1919, the mark was nearly back at the latter rate at the end of December 1920, with a depreciation of 92·10% as against 94·7% in January of the same year and 87·5% in June.[1] Even internal prices which had only been recorded in Germany since 1920 had varied little in the course of this year; the index moved from 1446 in August to 1437 in December, after having reached 1506 in November, and remained at a lower level during the first seven months of 1921 (official index of wholesale prices).

The connection commonly supposed to exist between fluctuations in the exchange, the note issue and prices is therefore not apparent during this period; the comparative stability of the exchange may, however, be partly attributed to certain steps taken by the Reichsbank and the German Government.[2]

But although, as has just been shown, the note issue increased very considerably between 1918 and 1921 without any appreciable fluctuations in the exchange or in internal prices, it is no less remarkable that, from the second half of 1921 onwards, the exchange rates and prices rose concurrently *and far out-distanced the note issue, which, in spite of the activity of the Government printing press, never increased in proportion to the rise in prices.* Whereas on June 30th, 1921, the percentage increase in prices was only 2·1% of the corresponding figure for the previous quarter, the note issue having increased by 5·5%, the position is reversed as soon as prices begin to follow the exchange. This is shown by the table on p. 65.

Thus the monetary crisis in Germany shows on the whole that *the internal price fluctuations were narrowly*

[1] The loss on New York was rather more than 95% at the end of January 1920, 89% in June, and 94·1% in December.

[2] See Rist, *Revue d'économie politique*, 1921, p. 73.

PERCENTAGE OF INCREASE COMPARED WITH THE PREVIOUS QUARTER.[1]

	Sept. 30, 1921.	Dec. 31, 1921.	March 31, 1922.	June 30, 1922.	Sept. 30, 1922.	Dec. 31, 1922.
Note Issue .	11·8%	29·6	44·3	28·7	84·2	290·2
Prices . .	51·4%	68·7	55·8	29·4	308·2	413·9

bound up with those of the exchange, whereas both appear to be fairly independent of changes in the note issue. This observation, the theoretical consequences of which will be stated more fully, must be emphasised here, for it supplements, even if it does not invalidate, certain commonly accepted theories.

Taking first price movements, we shall find a simple explanation of this phenomenon when we reflect that in a country the economic life of which is bound up with its foreign trade, the prices of imports and exports are directly dependent on the rates at which foreign bills are negotiated. A further and more complete explanation is given by the custom of fixing the majority of prices day by day in accordance with the rate of exchange in a country where depreciation is continuous, unlimited and always increasing. It is easy to understand, after this, how internal prices become more and more closely connected with the rates for foreign exchange, and follow the spasmodic movements of international speculation, while changes in the note issue are thenceforward *the result rather than the cause of a rise in prices*, even though they originally helped to bring about the exchange crisis. Once internal prices are swept along by the exchange movements, the number of monetary units required for every kind of transaction also increases. And inflation itself, always lagging behind the price movements, in reality merely *attenuates the process of monetary contraction.* It is

[1] Figures given in the "Memorandum on Currency 1913–1922," published by the League of Nations, February 1923, p. 15. Another table (p. 12) shows the movements of the note issue and of prices between 1919 and 1922 in another form. A basic index of 100 taken for both rises to 18,377 in the case of prices, and only to 2587 in the case of the note issue.

therefore no longer responsible for rising prices; it can only help to confirm them, after having itself followed the rise, unless indeed the mere prospect of further inflation may be considered as influencing the exchange. In fact, it must be a desperate financial situation as a whole, and not inflation by itself, which really influences speculation.[1]

Inflation does not therefore appear to have a greater responsibility than has been indicated above for the accelerated depreciation of the German mark and for its ultimate downfall. For *from the beginning of* 1920 *to the middle of* 1921 *it did not have any very conspicuous effect on prices;* since then it has lagged far behind the price movements which were bound up with the exchange; *it cannot therefore have been capable of preventing the recovery of foreign trade by causing a rise in prices.* Moreover, until recently (February 1923) internal currency depreciation has almost always been less than external depreciation, thus leaving German exporters who sold foreign exchange a margin of profit. As we shall see, *it was only as a result of the habit of using the dollar as a money of account that internal prices rose to the level of the loss on exchange, and that the internal depreciation of the mark came to equal its external depreciation and ultimately to exceed it.*

§ 7. *General characteristics and results of the world crisis in the exchanges after the War. Fundamental importance of price movements following instability of the exchanges.*

The difference between the phenomena, taken as a whole, which appeared during the exchange crisis and those which had previously been observed is one of degree rather than of kind. We are witnessing a universal monetary crisis chiefly caused by the existence of a large number of countries with an *inconvertible* paper currency

[1] It should be observed that even quite recently, when the note issue has continually increased, a temporary fall in prices has occurred which exactly coincides with a temporary improvement in the exchange due to the intervention of the Reichsbank; the price index, which reached 7040 in February 1923 when the dollar index stood at 6647, fell to 6124 in March 1923, the dollar rate having fallen to 4965.

and a negative balance of payments. The elements of this crisis are of a kind already known, and the exchanges, no longer restricted by the gold points, are exposed to all the vicissitudes of speculation, as has already happened many a time. It is only the extent of the depreciation in some countries which is unprecedented; therefore the present crisis is chiefly distinguished because its effects are so far-reaching. The connection particularly between exchange and price movements has long been known, but there was often a fairly long interval between the two occurrences; in any case, the relation between them had not usually been closely defined.[1]

This relation between price and exchange movements becomes henceforward one of the main features of the crisis.

Even in countries like France, where the loss on exchange has always been fairly small, the accompanying internal rise in prices[2] is certainly one of the most important factors in the monetary crisis and of the various resulting economic disturbances. According as the ratio between internal prices and prices of foreign goods converted into national currency at the current rate of exchange is favourable to export or not, production will be more or less affected. Again, the distribution of wealth is considerably altered, as wages usually rise and fall more slowly than profits, the higher wage varying less than the lower, unearned incomes remaining constant or nearly so, while most other classes of income increase more or less in proportion to the general rise in prices. It becomes very difficult to make long term contracts on account of the variations from one period to another in the purchasing power of the same sum of money.

These disturbances become catastrophic in a country where depreciation is continuous and increasing in pace. A certain number of capitalists, *e.g.*, those with unearned

[1] See Subercaseaux, "Le Papier-monnaie," p. 208 *et seq.*

[2] We need only observe here the coincidence of the two phenomena, whatever the chief cause of the rise in prices in any given case may be,—whether it has been traced to the exchange itself, to an increase in the note issue or to a scarcity of commodities.

incomes and bondholders who are only entitled to a fixed nominal income, are entirely ruined. This may also happen to owners of house property whose rents are restricted by law. On the other hand, the value of shares, dividends on which vary with the price of commodities, often rises even more than prices and the rate of exchange. For instance, according to the *Berliner Tageblatt*, the Stock Exchange index for shares showed on August 22nd, 1923, a rise of 133,080% in comparison with January 3rd, whereas during the same period the dollar index had risen by only 70,607%. Meanwhile the rate of interest on recent loans is increased owing to uncertainty as to the purchasing power of the currency at the time of redemption. In August 1923 interest was being paid in Germany on the money market and on the Stock Exchange at the rate of 1 to 1½% per diem.[1]

With an accelerating depreciation, wage-earners no longer succeed in adjusting their earnings—in spite of continual increases—to the price movements; in the end wages are made subject to an automatic percentage increase varying with the cost of living index. But soon prices fluctuate so much that it is no longer possible to ascertain the real value of a fortnight's or even of a week's wages from day to day or even from hour to hour.

It is true that farmers, who market their produce, profit by the rise; but if they want to insure against loss they are obliged to purchase goods without delay equivalent in value to what they have sold. Except by obtaining foreign exchange saving is impossible in any form, as from one day to another money representing profit or savings may lose its former purchasing power.

§ 8. *Attempts to overcome difficulties due to unstable exchanges and prices in countries with heavily depreciated currencies.*

Such was the situation of Germany, particularly in 1923. A whole series of attempts was made to overcome

[1] See article by M. Boislandry-Dubern in the financial chronicle of the *Revue Economique Internationale* of September 1923.

or evade the appalling difficulties of such monetary instability. The principle applied to wages was ultimately extended to all kinds of indebtedness, the sum due being subject to an automatic increase proportional to the decrease in purchasing power. At first an attempt was made to reduce indebtedness to terms, not of money, but of some commodity in current use, which for any given sum would have a fairly constant exchange value in relation to all other commodities; thus, for instance, loans were issued in Germany equivalent to a certain quantity of rye, coal,[1] potash and even kilowatts.

Then, owing to the accelerating depreciation, an experiment was made with a system of "accounts of constant value," under which a deposit in paper marks was assigned a certain gold value at the time when it was made, and the right was conferred of withdrawing whatever sum in paper money was equivalent to the same gold value at a later date; but borrowers were also obliged to repay at maturity the amounts of their loans plus a supplement representing the currency depreciation which had occurred since they borrowed.[2] Thereby changes in the value of paper money cease to have any effect except to alter the number of monetary instruments, the standard of value remaining unchanged. It is obvious, however, that if a private bank is to accept deposits on such terms, it must be in a position actually to convert a deposit into stable foreign currencies in order to avoid loss in obtaining

[1] For instance, a new company, the Grosse-Kraftwerk of Mannheim, issued share certificates of 10,000, 5000, 2000, 1000 and 500 kilograms of coal.

[2] A good example is the Deutsche Festmarkbank, opened at Berlin in March 1923, which was to issue loans in these "fixed" marks on behalf of certain companies.

After June 12th, when the Federal Government had accepted the principle of wages of constant value, the Economic Council admitted in a declaration of July 12th that it was no longer possible to oppose the general introduction of accounts in terms of gold, and that the Reichsbank itself should open such accounts. The same method ought, of course, to be applied to taxes, and this was done in Germany, in particular by a law of August 11th, 1923, and later in another form by opening revenue accounts of constant value (ordinance of August 25th, 1923).

countervalue in paper at the new rate at the moment of withdrawal of the deposit.

Thus in order to obviate the decline in purchasing power there came *to be applied in practice* a coefficient which was proportional, not to *the increase in the cost of living*, i.e., *the decrease in the internal purchasing power of the currency*, but to *the rate of exchange*. Now as the external depreciation of the mark had been greater and more rapid than its internal depreciation, the general introduction of contracts in stable currencies, in which the dollar was in fact the standard and the paper mark became a mere instrument of payment, ended by accelerating the rise in prices in Germany and forced the internal depreciation almost to the level of the external depreciation, not without some risk of the former overtaking the latter.[1] Prices then become absolutely dependent on the exchange, itself subject to all the vicissitudes of disordered speculation.

So the very effort to avoid the disadvantages of an unstable mark only hastened its downfall, without resolving satisfactorily the peculiar accounting difficulty which arises in industry and commerce. Henceforward the fluctuations of the mark no longer made themselves felt from day to day, but from hour to hour and almost from one minute to another, and merchants with one eye fixed on the exchange quotations altered their prices several times a day. But though they made certain in this way of receiving a sum in paper marks equivalent at the moment of sale to a certain sum in dollars, they could not tell what they could buy with those paper marks on the evening of the same day if they had not immediately covered themselves by converting their marks into foreign exchange.

These fruitless attempts seem to demonstrate that a solution of the problem of stabilising a standard of values can only be found in stabilising the instrument of exchange itself.[2]

[1] Internal depreciation can overtake external depreciation because dealers discount an anticipated fall in order to make certain of making their profits and renewing them.

[2] It is true that a monetary unit may be claimed to have been stabilised

§ 9. *Efforts to re-establish normal exchanges. England's traditional policy.*

In concluding this brief review of the exchange crisis resulting from the war, something must be said of the efforts of certain countries to put an end to it. Among the countries which were effectively belligerent, only the United States who entered the war late and, with the advantage of an enormous credit balance, found that a large part of the world's stock of gold was flowing back to them, were able to return to normal conditions by restoring the freedom to export gold. *Nor did this bring about a large decrease in their note issue*, which, taking the index 100 in 1919 as a basis, rose to 106 at the end of 1920, fell back to 88·6 at the end of 1921, and again increased, after a slight diminution (83) at the beginning of 1922, to 89 at the end of that year.

The former belligerents have for the most part not yet begun to pursue any definite monetary policy; the

---

by being given a constant internal purchasing power. At first it may seem that this was the method adopted in Germany with the issue of the Rentenmark (ordinance of October 15th, 1923). This new currency is convertible unit for unit into gold debentures with a nominal value of 500 gold marks, constituting an investment of constant value, the interest being equivalent to a fixed sum in gold at 5%. Thus, besides the vague and illusory guarantee of a general mortgage on real property, the bearer of these notes at least had the prospect of an income with a constant value. The issue of rentenmarks, which were to be convertible into paper marks at the rate of one rentenmark for one billion (thousand milliard) paper marks, was accompanied by the stabilisation of the former, and rentenmarks were dealt in at par (4·2105 marks = 1 dollar).

But although the issue of the rentenmark assisted stabilisation by checking internal depreciation and exercising a favourable psychological influence, it is obvious that stabilisation cannot be brought about by this very indirect method of making currency convertible, not into foreign currency, but into some "stable value," and based, not on the capital sum involved, but only on the interest. The real cause was the quite different action taken at the same moment by the Reichsbank in Berlin and the money markets abroad. *Here again the machinery which really effected stabilisation was the use of credits or liquid assets for the purchase and sale of foreign currencies at a fixed rate.* But with insufficient means of action, the Reichsbank was soon obliged to ration foreign exchange and an exchange premium began to appear after February 1924.

exchange crisis continues, especially in Europe, and has often become more serious and threatening. But the results obtained in three countries—England, Czechoslovakia and Austria—under different circumstances and by different methods, should be particularly noted.

The English exchange, which had on the whole been little affected during the war, thanks to the timely help of the United States, had suddenly begun to fluctuate at the beginning of 1919 when the American credits were withdrawn. For a short time at the end of 1920 it suffered considerable depreciation, the dollar rate falling to a little less than 3·50 in London. But on an average for 1920 and 1921 the dollar did not stand in London at a premium of more than 30%, and the internal depreciation of the currency as measured by the cost of living (retail prices) never went beyond the index of 265, which it reached for only a very short period, also in 1920. On the whole, Great Britain experienced only slight depreciation both at home and in the foreign exchanges, and she sought the remedy in both cases, particularly the former, in her traditional policy which was formulated at the end of the hostilities by the *Committee on Currencies and Foreign Exchanges after the War*, under the chairmanship of Lord Cunliffe, the Governor of the Bank of England. It was thought that the appropriate method of restoring its "normal" (*i.e.*, the previous) purchasing power to sterling and of rectifying the exchange was to put an end to inflation and to "deflate," and that this result could be obtained by balancing the Budget, and reducing and consolidating the floating debt, so that the State would no longer have to have recourse to further issues of currency notes.

This policy, clearly formulated at the close of hostilities, was not immediately carried out, and the note issue rose from 391·1 million pounds at the end of 1918 to 481·8 millions in 1920; meanwhile, the Budget still showed a deficit. But, as is well known, an exceedingly vigorous policy of taxation produced a magnificent surplus in the 1920–1921 Budget, and it was possible to begin to

amortise the public debt. For the rest, the issue of currency notes was regulated and effectively reduced from 1921 onwards. But in view of English monetary habits, real inflation and deflation, *i.e.*, an increase or decrease in purchasing media, depend even less than in other countries on the amount of currency in circulation, but rather on the expansion or contraction of credit. It was therefore decided to raise the discount rate to 7% at the beginning of 1920.

After these measures had been taken the following events happened. The wholesale price index which had risen to 325 on May 30th, 1920, thenceforward fell sharply and stood at 166 on December 31st, 1922. The retail price index, which had continued to rise until the end of 1920 and reached 265 on January 1st, 1921, in turn fell sharply from that date onwards and dropped—almost continuously—to 178 on January 1st and 163 on July 1st, 1923; but it rose again after that date. The curve of the dollar exchange is less uniform, but after having reached its maximum with a loss of 40% at the end of 1920, it also took a turn on January 1st, 1921, and registered a loss of 30% in the middle of that year, of 20% by the end of the year, and of only 10% in 1922. Finally in February 1923 the external depreciation of the pound sterling had been reduced to less than 3%, but was back to 11% in January 1924.

It is not very easy to establish definitely a relation of cause and effect between the steps taken and the observed results. Deflation, properly so-called, happened after the fall in prices, or at least of wholesale prices, which it was supposed to provoke; for there was no decrease in the note issue in 1920; it was fairly small in 1921, and suddenly stopped, and did not begin again till 1922. If the figures for bank deposits are taken as forming a supplementary index of the available purchasing power, it will be seen that inflation quite definitely went on into 1920 and that deflation was even less in 1921.[1] More-

[1] According to M. Rist, "La déflation en pratique" (p. 31), the deflation which took place according to the indices of the period from the end of

over, a crisis occurred during this interval; it began in 1920, and among the steps taken it was not deflation proper, but *the process of tightening credit by raising the Discount rate, which most nearly coincides both with the beginning of the crisis and with the fall in prices which was one of its manifestations.*

It is therefore hardly surprising that some observers attribute the fall in prices to the policy of deflation, whereas others attribute the crisis to it. It is strange, however, that in order to exonerate deflation its supporters have loudly affirmed that it hardly took place. Now it is difficult to maintain at the same time that deflation alone deserves the credit of having provoked the fall in prices, or, in other words, of having raised the purchasing power of the currency, and that it was not capable of contributing to the crisis. But on the whole it may be admitted that the crisis, and therefore the fall in prices which is one of its most ordinary manifestations, would have occurred somewhat sooner or later even if there had been no previous intention to contract the currency; for a period of excessive boom is always followed by a period of credit restriction. On the other hand, it should be recognised that the first effect of deflation is not a reduction in the consumers' purchasing power, but the tightening of credit, and that, therefore, it can hardly result in a fall in prices except by provoking a crisis.

A choice must therefore be made between the theory that the crisis and the fall in prices were more or less independent of the deflationist policy of the British Government, and the theory that this policy was partly responsible for both; but it would be rash to attempt a final answer to this question without a much more detailed study of the problem than the scope of our present inquiry permits.[1]

1920 to the end of 1922 may be estimated at only 7%. Although it is rather arbitrary merely to add the note issue and the deposits, this estimate gives an idea of the fairly low order of magnitude of the deflation which actually took place.

[1] M. Bonnet's excellent work, "La politique anglaise d'assainissement monétaire," Th. Paris, 1923, may be consulted on this subject, although it does not give a decisive answer to the question.

It would also be somewhat rash to attempt to establish too definitely a relation between British post-war monetary policy and the rise in sterling. *For if exchange phenomena are particularly susceptible of scientific treatment when they can be explained by the existence, combination or disappearance of gold or silver points or by any other definitely ascertainable condition for convertibility, it is, on the contrary, dangerous to attempt to explain by reference to the theory fluctuations in the exchange rate of an inconvertible currency when it is exposed to all the risks and caprices of speculation.* It is a piece of rather crude observation that the maximum fall in sterling happened at the end of 1920, when the note issue also reached its maximum, and that it began rising from that date onwards, while the note issue contracted, *but at a faster rate.* The improvement in sterling also coincides from 1921 onwards with an improvement in the Trade Balance, which, it is true, had shown its greatest deficit not in 1920 (373 million £) but in 1919 (669 million £). *But the initial improvement in the Trade Balance and the exchange cannot be attributed to the fall in prices, supposed to have been the result of a process of deflation, which incidentally had not occurred at the time.* Moreover, although the improvement in the exchange coincided with a fall in internal prices, its effect on the Trade Balance could only be to counteract the fall. For, with most European currencies continuing to depreciate, purchases in sterling became more and more burdensome for foreign buyers in spite of the fall in prices in Great Britain.

It therefore seems very difficult to try to prove that there is a sort of physical relation of cause and effect between deflation, the fall in prices, the improvement in the Trade Balance and the improvement in the value of sterling in terms of dollars. In the first place, *the events did not occur in the chronological order which is appropriate to the connection commonly supposed to exist between them, the improvement in the balance of trade preceding the fall in prices, and the latter having begun before deflation set in.* Secondly, many other factors may explain the fall in prices, the improvement in the Trade Balance, a possible

improvement in the general balance of payments, and even a rise in the exchange, which may be independent of the state of the balance of payments. Indeed it was to be normally expected that the rise in prices accompanying the revival of production after the war would sooner or later end in a crisis and in a fall in prices; at the same time it was normally to be expected that exports would revive after the removal of the restrictions of the war period, when freedom of communications had been re-established and markets had again been thrown open. Finally, it was normally to be expected that the splendid fiscal efforts of Great Britain should inspire the greatest confidence abroad, and thus make it easier to open new foreign credits or renew old ones, and to induce speculators to take a favourable view. And so it is perhaps *some such psychological factor which must be considered as the essential connecting link between these events which, incidentally, one is not surprised to find coinciding.* The British exchange, a prey to speculation like every other exchange once it has jumped the physical barriers of the gold points, did not fail to profit by the vigorous and courageous policy of the British Government; of that policy deflation properly so-called, which in 1920 had only been projected in outline, was merely a secondary manifestation. Nevertheless the British exchange is on the whole still unstable.

§ 10. *Experiment in Czechoslovakia, based on the classical principles, produces at first a rise but not a stabilisation of the exchanges; a rise in prices takes place in spite of a contraction of the currency. Stabilisation attained in* 1923 *results, in practice, from convertibility.*

Among the few countries where a systematic attempt was made to reform the monetary system, Czechoslovakia deserves particular study. In this country, peculiar in that it is governed chiefly by university professors and "intellectuals," the Finance Minister, M. Rasin, devoted himself as soon as he came into power to establishing a sound

monetary system; although he had studied economics after the war he had not specialised in the subject for many years, and, for this reason perhaps adopted without hesitation a theoretical and rigid plan which was rather over-simplified and more or less on traditional lines. But it should at once be added that, guided by the experience of the Austro-Hungarian monarchy, he supplemented this plan by a series of very effective practical measures. After having had the notes of the Austro-Hungarian Bank circulating in Czechoslovakia stamped in order to provide his country with a currency of its own, he contemplated the withdrawal of 80% of the note issue so as to leave only about 2 milliard crowns in circulation; he also thought, however, of floating a loan of 100 million dollars in the United States in order to obtain the necessary gold cover; and judging by the precedent of the Austro-Hungarian Bank's action since 1892, it is clear that such holdings of gold abroad would have favoured effective stabilisation at whatever rate was thought convenient.[1]

[1] See "Financial Policy of Czechoslovakia during the First Year of its History," by Dr. Alois Rasin, Oxford, Clarendon Press, 1923. The passage in which the author gives his own account of his first plan of reform (*op. cit.*, p. 24) deserves to be quoted in full: "I wanted originally to withhold 80% of the bank notes, so that approximately two milliards would have remained in circulation; to arrange at the same time for payment of all the salaries of State employees by means of cheques on compulsory cheque accounts assigned to them with financial houses; and to establish a new bank of issue forthwith. The Government should have got a loan in the United States of 100 million dollars in gold, and left the money in America, while, however, assigning it to the new bank of issue, in order to be in a position to withdraw the two milliard old bank notes circulating, and to exchange them for the bank notes covered by the American loan. In this way we should have come in for the crippled gold standard; but only the consumption sum of two milliards would have been covered in gold, and the excess over this amount would have had to be derived through credit. The bank notes would certainly not have been exchangeable for gold, but by means of a good bill and discount system the international exchange rate could have been maintained at par. The example of the Austro-Hungarian Bank's method before the war was indeed tempting. In that case too there was no obligation to exchange, and the bank notes were forced currency; yet from the year 1893 to the year 1914 the Austro-Hungarian Bank had

The first part of this plan, *viz.*, the stamping and contraction of the note issue, was carried out under a law of February 25th, 1919, supplemented by several ordinances of the same date. The notes which were withdrawn were not necessarily confiscated; those which were withdrawn formed, for each owner, an account bearing interest at 1%; this forced loan was intended to prepare the way for a tax on capital levied in accordance with a careful assessment, and every individual was to be reimbursed any surplus of notes appropriated over and above his share as soon as the proceeds of the loan itself had flowed in.

The rate of reduction was finally fixed at only 50%, and owing to a certain number of exemptions (for amounts under 300 crowns, one-quarter of all salaries and wages, notes issued by public authorities) the effective reduction was less than 30%. Moreover, a very large proportion of the notes which had thus been withdrawn were put back into circulation some months later, when M. Horacek succeeded M. Rasin as Minister.[1]

Deflation, properly so-called, seems therefore to have been fairly moderate. But a law of April 10th, 1919, prohibited any increase of State notes "in excess of the

---

succeeded by its bill and discount system in maintaining the quotation of the krone at gold parity."

It will be observed in the first place that it is a strange misconception to suppose that a noticeable currency contraction can be brought about by reducing the note issue, while at the same time an equal amount of purchasing power is made available in the form of Bank accounts supplied by the Treasury. Again, the creation of a "gold" currency secured on a foreign loan is necessarily ineffective if that currency is to remain inconvertible. But the author contemplated a system similar to the one adopted by the Austro-Hungarian Bank before the war and could point out with truth that there was no convertibility then. To be more exact, the note issue was not legally convertible, but was convertible in practice, and this explains how it was possible to maintain an almost constant parity.

On the whole, the practical lessons of the experience of Austria-Hungary before the war corrected a too simple theory, and it will be seen that the present stabilisation of the Czech crown is due not to the theory but to these practical lessons.

[1] Rasin, *op. cit.*, pp. 28, 29.

total amount of the bank notes stamped under the law of February 25th, 1919, and one-half of the amount of those current accounts and Treasury bills of the Austro-Hungarian Bank which were taken over by the State," unless "complete bank cover subject to private legal liability was available for these media of payment." Moreover, in the event this restriction on the note issue was strictly observed. In addition, the Finance Minister was entitled under the law of February 25th, 1919, to prohibit the Bank of Issue from increasing its deposit accounts.[1]

The stamped notes of the Austro-Hungarian Bank soon gave place to Treasury notes (the transition occurred between July 1919 and the middle of 1920), and the law of April 10th, 1919, which officially created the Czech crown, also created a State "Banking Department," which was provisionally to perform the normal tasks of a Bank of Issue [2] and, in particular, keep up a sufficient circulation but within the limits laid down in the law of February 25th, 1919. On April 26th, 1920, this office absorbed the Foreign Exchange Control Office which had been created at the end of 1916 by the Dual Monarchy and had become a Czech institution on January 30th, 1919.

The project of an external loan, which was also contained in the law of April 10th, 1919, could not be realised.[3] But after an appeal to the public, and with the help of a large gold loan and a voluntary collection, a small stock of yellow metal was got together to the value of about 58 million Swiss francs. *Moreover, in pursuance of*

[1] See A. Piot, "La couronne tchéco-slovaque," th. Paris, 1923. It should further be observed that, with the process of stamping, hoarded notes were first brought to light and then eliminated, so that the real note issue may have been changed even less than the above-mentioned figures indicate.

[2] The statutes of the future Bank of Issue were promulgated under a law of April 24th, 1920, but it has not yet been established (see Piot, *op. cit.*, p. 83 *et seq.*).

[3] Czechoslovakia only obtained through the help of Mr. Hoover a credit of 51 million dollars for the purchase of foodstuffs in America. The other negotiations, in particular those with Italy, France and Sweden, broke down.

the law foreign bills and foreign currencies were to be handed over to the Banking Office, which was thus likely to succeed in getting together a large portfolio of foreign bills.

Thus, when M. Rasin after some months of hard work was about to leave the Finance Ministry, the currency reform which had been contemplated might have been said to be under way without having yet attained its object. The currency, although it had been only slightly reduced, was at all events regulated; but no stable conversion rate had been contemplated, and there was neither a gold stock nor credit sufficient to cover any conceivable demand for foreign exchange. But some valuta had already been collected, and a small reserve of gold and foreign currencies had been constituted.

The first effects of this policy showed themselves clearly in the exchange curve. As from October 28th, 1918, the Czech crown had been quoted at Zurich separately from the Austrian crown, considerably to its advantage (30 francs for 100 crowns as against 26 francs). Thereafter the confidence inspired by Rasin's vigorous policy helped to increase the disparity between the two currencies, the Czech crown appreciating to 33·5 francs on May 17th, 1919, while the Austrian crown dropped to 21 francs on the same day. In April the Foreign Exchange Control Office had stepped in to break speculation,[1] and it did so again in May to check a rise which was too sharp and to arrest it when a rate of 34 francs was reached.

But from the moment of Rasin's fall (July 1919) to the middle of 1921, the Czech crown, while remaining at a higher level than the Austrian crown, described a curve nearly parallel to that of the mark, declining almost without interruption until February 1920, when it fell to 5·65 francs, recovering till May in the same year with the mark, which it then again followed in a decline.

This prolonged dependence of the Czech crown on the

[1] It had suddenly caused the Czech crown, which had fallen to 21 centimes, to rise to 28 centimes, to the confusion of those who were speculating on a fall. Rasin also prohibited the import of Austrian securities which would have weighed down the balance of payments. (See Piot, *op. cit.*, p. 156.)

mark is no doubt partly to be explained by a lack of initiative or power in the Banking Office, and by the economic and technical conditions as a whole. When the proceeds of the small American loan were exhausted in 1919, the United States, alarmed by the social policy of Czechoslovakia, which they believed to have fallen under the influence of the Bolshevists, stopped all credits. The Germans thereupon undertook to support the Czech exchange either by opening mark credits or by accepting payments in Czech crowns.

In the event, Czechoslovakia succeeded, not only in paying for its purchases in Germany in marks, but also in accepting marks in payment for its deliveries in Germany. Thus on all sides the connection between the two exchanges was confirmed.[1] On the whole, dealings in Czech crowns were confined to Vienna, Prague and Berlin, and the Prague exchange could never obtain an ascendancy over its rivals at short notice. In particular, the Vienna exchange, which was better equipped, continued to be the chief foreign exchange market in Central Europe; for Western dealers continued to settle chiefly through Vienna or Berlin, and even the Zurich exchange felt this influence.

This interdependence, however, of the rate of the Czech crown on the one hand and the rates of the mark and the Austrian crown on the other, lasting as it did for two years, the issue of the former being strictly limited,[2] *and the latter being subject to continual inflation, none the less contradicts the theory on which Rasin based his plan and which is still held by so many economists. Moreover, in spite of currency contraction, domestic prices in Czechoslovakia rose steadily.* The rise, which was at first moderated in the case of certain commodities in 1919 by a conjunction of favourable circum-

[1] See A. Rasin, *op. cit.*, p. 73. The author also shows that the Czech importers preferred paying for German imports in marks because they feared a disagio on the crown, and explains, on the other hand, why the Czech exporters desired the Czech crown to fall with the mark in order to have the benefit of a continually increasing premium on the exchange.

[2] It may be added that, in spite of a social programme involving a considerable burden, the 1921 Budget was almost balanced. (Piot, p. 189.)

stances [1], had followed a general course in 1920,[2] and by the middle of that year the internal depreciation of the currency seemed to have nearly equalled its external depreciation.

In 1921 Englis, the Finance Minister, attempted to recover the mastery of the exchanges which had been lost with the fall of Rasin. At least in October of that year, at the time when a new collapse in the mark was taking place, *all connection between the Czech and German currencies had disappeared, the former taking a definite turn towards a rise.*

It should be observed that *this recovery took place at the very time when the notes circulation*, still legally limited but expanding with the volume of commercial bills, *reached its highest point* and exceeded by 4 milliards the amount of the notes in circulation before the reform.

The explanation of this recovery lies, however, in a conjunction of favourable circumstances, partly political, which revived confidence abroad, *e.g.*, the successful mobilisation at the time of the attempt to restore the ex-Emperor Charles to the throne of Hungary, and the evident return to social and financial order. To these were added certain economic circumstances, in particular the existence of a large export surplus which enabled the Banking Office to accumulate a large stock of foreign currencies and even a considerable amount of gold and silver coin and bullion, and to intervene more or less effectively on the exchange market.[3]

The possibility of stabilisation might have been contemplated at this stage. But Rasin returned to power

[1] Through the American supply service an ample quantity of foodstuffs had been procured, the rate being 18 crowns to the dollar; ultimately, when Rasin was first in office, the exchange had greatly improved.

[2] See table showing 28 commodities published by the Czech Ministry of Food and reproduced in the above-quoted work of M. Piot, p. 143. See also Rasin, *op. cit.*, p. 69, and Rist, "La déflation en pratique," p. 94 *et seq.*

[3] The stock of foreign currencies had reached 783 million crowns on June 30th, 1921, as compared with 14 millions in December 1919, and the gold and silver coin and bullion amounted to 555 millions at the same date. It may be added that, as the mark progressively depreciated, German and Austrian exporters asked of their own accord to be paid in crowns by the Czech purchasers, and with the accumulation of crown deposits a favourable element was added to the Czech balance of payments. Thus the recovery

and, it seems, took the view that the Czech crown should be allowed to appreciate until it reached the value of the former Austrian crown, *i.e.*, the gold crown. After having counteracted a drop in the crown by energetic measures on the part of the Banking Office which used a portion of its stock of foreign exchange for the purpose, Rasin proceeded to allow the rate to rise without regard to the resulting difficulties for industry.

For the recovery of the crown had taken place before a corresponding fall of internal prices had occurred, and it was difficult to adapt cost prices to the selling prices abroad. It is true that domestic prices began to fall with the improvement in the exchange, of which imported products were the first to feel the effects. " Colonial foodstuffs, cocoa and coffee fell immediately, and all the faster because the import duties upon them were lower. Freely imported commodities brought down the prices of identical and similar commodities produced at home; cotton affected wool, and lard affected butter. But it was also necessary that exportable commodities should fall, in order that Czech exporters should be able to keep their markets. A reduction in salaries became necessary, and one which brought them perhaps even below the level corresponding to the actual fall in the cost of living." Industry met with serious obstacles, and yet it was the very crisis resulting from the difficulties of adaptation which finally removed them; for the menace of unemployment forced the wage-earners to give way.[1]

---

of the Czech crown, once it had begun, produced an improvement in the balance of payments. Conversely, Czech exporters, who had hitherto sought to escape from the control of the Foreign Exchange Control Office, repatriated capital.

[1] The following table showing the indices of various countries, given in Czech crowns at the current rate of exchange, shows that the fall in domestic prices was not great enough to counteract the recovery of the crown in the eyes of foreign debtors :—

	Jan.	April	Aug.	Sept.	Oct.	Nov.
Czechoslovakia . .	1675	1491	1386	1155	1059	1017
United States . . .	2316	1699	1407	1126	994	999
Switzerland . . .	2360	2360	1501	1121	989	994

(Piot, *op. cit.*, p. 205.)

Since Rasin's death the crown has resumed its upward course, but up to the end of 1922 with continuous and wide fluctuations. The significance of the currency experiment in Czechoslovakia up to this time can, however, be described.

In the first period under consideration we have seen how a vigorous, honest monetary policy, based on a considerable sacrifice by the taxpayer and on a strict limitation of the note issue, and supported from the beginning by some power to influence the exchange market (centralization of foreign exchange operations and use of the holdings of foreign bills), succeeded in separating the Czech crown from the Austrian and in sending up the former. *During the second period, we observe that contraction is insufficient to produce a permanent recovery in the exchange and a fall in domestic prices. Although the note issue is limited, the Czech crown follows the mark and collapses with it; an increasing loss on exchange provokes, in spite of various remedies, a rise in domestic prices, in other words, the depreciation of the currency at home.*

During the *third period*, when favourable circumstances prevail—above all *the recent constitution of a large stock of foreign exchange*[1] *and the successful intervention on the exchange market of the Banking Department*—the Czech crown definitely breaks with currencies which continue to depreciate. But although during this period there is a renewed effort to deflate, *it is clear that deflation does not influence the exchange in the way certain theoretical writers have supposed, i.e.*, by a fall in home prices which promotes the recovery of the balance of payments and so also of the exchange. For the exchange value of the crown rose *before the fall in home prices occurred*, and it is, on the contrary, the diminution of the loss on exchange for importers and of the exchange premium for exporters which causes home prices to be adjusted at a lower level.

[1] It should be added that at the beginning of 1922 the Czech Government had succeeded in again obtaining foreign loans of considerable dimensions, *viz.*, £2,300,000 in London, £500,000 in Amsterdam and 14 million dollars in New York.

This whole series of phenomena is disconcerting for those theoretical writers, more or less attached to the Anglo-Saxon school, who expected that the magic of deflation would bring about the recovery and even the stabilisation of the Czech crown, and who, above all, did not believe it to be possible that with a limited note issue there should occur either a collapse in the exchange or a serious rise in prices.

One of the exponents of this theory has been obliged to admit in a recent work [1] that, in view of the interval of two years between the end of the attempt to deflate and the final recovery of the Czech crown, " it is really difficult to attribute this reversal to the measures for the contraction of purchasing power which were taken immediately after the war " !

He also admits that the rise in prices was produced, in spite of a wise restriction of the fiduciary currency, by the collapse in the exchange, and that the fall in prices in 1922 succeeded its recovery.

He even emphasises this observation in the following passage: " Far from the exchange rates being influenced by domestic price movements, prices were exceedingly sensitive to exchange fluctuations. For the effect of an internal or external appreciation of the crown was to raise the price of exported or imported food-stuffs and so of all other commodities." [2]

But he still finds it surprising that " prices could rise in spite of the initial reduction of the currency." " The rise in prices provoked by the drop in the exchange," he adds, "ought surely to have met with an insurmountable barrier in the shortage of currency." After all, he concludes that "the facts show that the opposite was the case;

[1] Ch. Rist, "La déflation en pratique," p. 95.

[2] And again: " Not only did the two movements begin at the same moment; even before there had been a striking resemblance between their curves. A temporary fall in prices between December 1920 and July 1921 coincides with a temporary stabilisation of the exchange. The enormous rise from 1919-1920 was parallel to the decline of the Czech crown during nine months, from 33 Swiss francs to 9·40 francs." (Rist, *op. cit.*, p. 95.)

the influence of the exchange showed itself to be stronger than the contraction in purchasing power."

We confess that we do not share his surprise; for we have always admitted that the quantity of money, whether real money or money of account, which is required for an increase of transactions due to a rise in prices will inevitably create itself. But the experience in Czechoslovakia is peculiarly instructive in that it gives some indication of the machinery by which media of payment spontaneously multiply. It must be remembered, of course, that the fiduciary circulation of Czechoslovakia, although strictly limited under the law of 1919, was nevertheless capable of expansion through an increase in the bank holdings of commercial bills, and that, as we have already seen, it did in fact increase by 50% between February 1919, when it was stamped, and the end of 1921. But this increase is admittedly small compared with the rise in prices which nearly trebled during the same period. Therefore we must not only take into account the discounts and advances by the Banking Department which had themselves increased much more in proportion than the secured fiduciary circulation; it rose from 656 million crowns in May 1919 to 4,337 million in December 1920, and remained thereafter at between 3 and 4 milliards. We must also and indeed mainly take into consideration other indices, such as the amount of clearings effected by the Prague Clearing House, which rose from 11,870 million in 1919 to 41,535 million in 1920.[1]

This increase in credit and transfer operations presupposes a corresponding rise in deposits, and the latter, in fact, took place, especially in the deposits of the postal cheque department, which rose from 21,284 million

[1] Rasin, *op. cit.*, p. 82. The author points out that during the year 1919 the aggregate of commercial bills presented to the Clearing House increased much more than nine times, whereas the crown had only depreciated to one-fifth of its value in comparison with 1914, and that in 1920 the same clearing operations had increased thirty-one times, whereas the currency had only depreciated to $\frac{1}{15}$ of its value. He thus emphasised that the increase in clearings was a preponderating element in the expansion of media of payment necessitated by the rise in prices.

crowns in 1919 to 64,468 millions in 1921, about 56% of these deposits being made without necessitating any movements of specie.

On the whole, *all this clearly shows that in a country with a modern banking system and with modern credit facilities, bank holdings as well as credit will increase naturally with a rise in prices.* After a first call on such liquid assets, of which savings may form a part, high prices followed by high wages raise the income of sellers who, without any necessity for a corresponding movement of specie or notes, transfer the sums they collect to their banking accounts, which thereupon expand and enable the corresponding payments to be made.[1]

M. Rasin, in the interesting book in which he describes his own work, was careful to emphasise the important fact, which corrected his original ideas, that the absence of inflation in the usual sense of the term, *i.e.*, of an increase in the quantity of media of payment, did not prevent an increase in incomes corresponding to the rise in prices.[2]

And so the clear result of experience in Czechoslovakia —and we have here an exceedingly valuable hint for our present discontents—is that a fall in a demoralised exchange may produce the effects commonly assigned to inflation, without the latter having occurred.

The recovery of the crown appears to have been due in

[1] This observation does not invalidate the Quantity Theory, in that it is the rise in prices which is represented as involving a correlative increase in the actual circulation, if not in the stock of currency; but it does explicitly disprove the theory of economists like Irving Fisher, Cassel and Rist, who, while not otherwise denying the influence of banking machinery on changes in the actual circulation, thought that the Quantity Theory justified the conclusion that prices could not rise without an increase in the metal or fiduciary currency.

[2] *Op. cit.*, p. 74: "For the student of political economy the case of Czechoslovakia is particularly instructive. Inflation, with all its consequences, is not caused by an increase in the circulation alone, but also by the excessive rise in incomes among large sections of the population. If the theory of quantity were correct, the mark and the Austrian krone should have fallen, since in these two countries the currency had been increased; while the Czech krone should not have fallen, because, as we shall demonstrate further on, the currency had not been increased. But in spite of this, the same depreciation affected the Czech krone . . ."

the first instance to a change in public opinion abroad, *but it was carried through above all because of the increasingly effective operations on the market of the Banking Department, which had succeeded in accumulating*, with the help of a large natural surplus in the trade balance, *a very large stock of foreign exchange—the outstanding event of* 1921.[1]

Moreover, while a strict financial policy may in itself contribute largely towards exchange recovery, it cannot be recognised as sufficient to effect *stabilisation*, even if it is backed by foreign credits.[2]

The experience of Czechoslovakia up to the end of 1922 proves exactly the opposite, *and if at the beginning of* 1923 *the Czech crown entered on a new phase, that of approximate stabilisation round about* 34 *crowns to the dollar, there can be no doubt that this stabilisation has been due to the regulating activities of the Banking Department.*

Although the character of this stabilisation is not officially recognised, and although the Czechoslovakian Government has not hitherto thought it advisable to establish a fixed rate of conversion, *it is common knowledge that, to the extent necessary to keep the crown stable, the Banking Department buys and sells foreign bills at a rate which does not differ widely from the one mentioned above.* It offers a rather more elastic method of attaining *convertibility* than Conversion or Exchange Offices, but *the principle is*

[1] The Foreign Exchange Control Office helped to procure bills for the Banking Department. But so long as exporters anticipated the continuance of depreciation, they made every effort to evade the control of foreign exchange, which was never entirely effective until, taken by surprise by a series of sharp recoveries in the crown, they regained confidence in it, and spontaneously handed over their foreign bills. Action through control offices thus appears to be an inadequate expedient when it is founded on force, but valuable when it is based on confidence.

[2] M. Rist (*op. cit.*, p. 87) declares that "the mere stoppage of inflation by a Government, combined with the perseverance and determination necessary to balance the Budget, and supported by foreign credits, is sufficient to stabilise the exchange." Neither the stoppage of inflation nor Budget equilibrium nor even foreign credits will suffice to stabilise an exchange, if there is no systematic intervention in the exchange market to create an almost constant rate for the bills necessary to fill the gap in commercial drawings, and to allow of the purchase at approximately the same rate of surplus commercial foreign bills on foreign countries.

the same in both cases, and the last stage of currency reconstruction in Czechoslovakia has confirmed the theory that *there can be no stability without convertibility.*

§ 11. *Currency reform in Austria. Return to normal exchanges by the effective use of the Gold Exchange Standard. Fairly stable prices emerge from stable exchanges in spite of an enormous increase in the fiduciary circulation.*

Austria offers an example of the attainment of stabilisation after prolonged depreciation in its extreme form. At the time when the restoration of the currency was first contemplated in Austria, the crown had fallen even lower than the mark. The rate in New York was 0·000137 on April 1st, 1922, and 0·000022 on August 1st of the same year. Notes were issued at an increasing rate as depreciation advanced (304 milliards on March 31st, 1922, 549 milliards on June 30th, 786 milliards on July 31st),[1] and an unstable currency had been attended by almost the entire series of economic and social disturbances which have already been described in the case of Germany. It was at this stage that the Chancellor, Mgr. Seipel, made a desperate appeal to the world at large, which found an echo in the League of Nations. The latter, after having considered Austria's plight at its session in August and September 1922, prepared agreements, with the object of ensuring both the assistance and control necessary for her financial recovery, which were signed on October 4th, 1922, by Austria, Great Britain, France, Italy and Czechoslovakia.[2]

The real basis of this scheme for currency reform and financial reconstruction appeared to consist of a series of measures destined to arrest the further issue of notes, and,

[1] But the increase was much less in proportion, for the circulation hardly trebled between the first and last of these dates, whereas the exchange index was multiplied nearly eight times.

[2] See the text of the agreements, published by the League of Nations, C. 716, M. 428, 1922 K., with the title "Financial Reconstruction of Austria," November 9th, 1922.

with that object, to balance the budget. It involved an external loan (650 million gold crowns) which had been considered necessary chiefly in order to assist the Government in meeting the immediate deficits, but it contained no *explicit* provision for making the crown convertible. The scheme included the creation of a new Bank of Austria, with the task of re-establishing normal conditions in the issue of notes, with a cover in gold or stable foreign currencies, beginning at 20% and rising at the end of 15 years to 33%.

The new Bank of Austria was created on November 14th, 1922; the printing of notes was stopped on November 18th, 1922; credits were immediately placed at the disposal of the Austrian Government,[1] *and enabled the Bank to be provided immediately with the means of making foreign payments—a necessary step in order to support the exchange.* The exchange, which had fallen to 0·000014 on New York, was henceforward maintained at this rate, which is equivalent to the new parity of approximately 14,000 paper crowns to the gold crown. With the revival of confidence abroad and at home in the currency which had again become a medium of saving, *this process of stabilisation caused the repatriation of capital and a flow of foreign investments, which soon took the form of an abundant supply of foreign exchange on the Vienna market.*[2]

During 1923 the Government stopped throwing foreign currencies on the market; the National Bank of Austria on the contrary *bought up the surplus of foreign currencies over market requirements, and this both increased its reserves and prevented the crown from rising above the fixed parity; the Bank did not hesitate to make further increases in the note issue in order to make such purchases.*[3]

[1] These credits were obtained by means of Treasury bills issued up to 60 million gold crowns to be covered by stable foreign currencies, and by 70 millions from abroad, 50 millions being taken out of the remainder of certain advances already made by France, Italy and Czechoslovakia.

[2] See Sixth Report of the Commissioner General of the League of Nations at Vienna of July 9th, 1923.

[3] See Seventh and Eighth Reports of the Commissioner General of the League of Nations at Vienna.

Currency reform in Austria offers therefore another example of stabilisation effected through the Gold Exchange Standard. It is true that this method was not explicitly mentioned in the reconstruction programme drawn up by the League experts. But it must not be forgotten that this had been the Austrian system since 1892, and there was doubtless no necessity to prompt the Austrian authorities of the new Bank to pursue a line of conduct which was the natural consequence of the time-honoured tradition of the Vienna market, and which had already been followed by the Austrian section of the Austro-Hungarian Bank since the end of August 1922. *It is perfectly clear from the reports of the Commissioner General of the League of Nations at Vienna that the new Bank of Austria, following the example of the former Bank, supplies the market with foreign bills at a rate which with the help of its foreign credits can be kept nearly constant, and thus establishes a fixed export gold point based on the new parity of the crown. It is no less clear that by the purchase of all the surplus foreign commercial paper at more or less the same rate, and with practically unlimited quantities of domestic currency at its disposal for this purpose* (i.e., *by the issue of notes*), *the Bank establishes for the benefit of holders of foreign bills a rate which corresponds to the import gold point, and which does not allow the dollar to fall in relation to the crown, or, in other words, the crown to rise in relation to the dollar, above the exchange parity which it has fixed.*[1]

It is strange, therefore, that the example of Austria should have been advanced as proving that all "artificial" measures of stabilisation are vain, and that purely empirical measures to balance the budget and regulate the circulation are effective. Though not in name, the Bank of Austria, like the former Austro-Hungarian Bank, in fact plays the part of a Conversion Office.

It should also be observed that *the Austrian circulation has continuously increased since the crown was stabilised.* It had stood at 549 milliards on June 30th, 1922, had risen

[1] This parity is, however, as in Czechoslovakia, not expressly fixed, and the Bank of Austria has not opposed a slight rise in the crown.

to 2,324 *milliards by September 30th* in the same year, and reached 4,080 milliards when the unsecured issue ceased at the end of 1922. In August 1923 it reached 5,643 milliards, and on December 31st 7,126 *milliards, to fall back to* 6,492 *in January* 1924.

Although the note issue has a very large cover (63·8% in gold and foreign currencies in January 1924),[1] *it is clear that inflation continues*[2] *and there is still a discrepancy between the increase in the fiduciary circulation and the rate of exchange, which being once more restricted by the gold points remains stable.*

The price movement does not seem to have been affected by currency expansion, once the exchange was stabilised. It is true that in the third report of the Commissioner General it was pointed out that after the fall which followed stabilisation the index rose a little in March, showing an increase of 6% on the previous month; but it was pointed out at the same time that, apart from a slight boom, a rise in prices on the world market had brought about a corresponding rise in the prices of imported commodities. The index continued to show a very slight rise of 1% between May 15th and June 15th. But a fall of 5% took place in the following month, apparently in accordance with the normal seasonal fluctuation, and a further similar drop took place in August.[3]

[1] *I.e.*, the value of 4,147 milliard paper crowns, equivalent to 188 million gold crowns.

[2] The Eighth Report of the Commissioner General of the League of Nations also points out (art. 7) an increase in the figures for deposits in the National Bank. He sees in this a sign not of an increase in the circulation but of a decrease in the velocity of circulation, an observation which goes against those who believe that bank deposits and notes need only to be added together in order to obtain the total circulation.

[3] The information in the text is taken from the League of Nations Reports. It is corroborated by the statistics quoted by M. Aftalion in an article on "La circulation, les changes et les prix" (*Rev. Econ. Intern.*, February 1924, p. 268). Fuller information may be obtained from an article on "Die Kosten der Lebenshaltung zu Anfang Jaenner 1924," by Philipp Knab, which appeared in the *Oesterreichische Volkswirth* of January 5th, 1924. As regards foodstuffs the results are the same. It

"The Index, which in September was 3% higher than in August, rose anew in October, showing a fresh increase on the figures for September. The present figures are, however, 4% lower than those of September 1922." [1]

Since then the rise has continued; but it has always been on a small scale, at any rate in respect of foodstuffs, which never rose by more than 15% between January 1923 and January 1924.

On the whole, the internal depreciation of the crown, which, during the period of the "flight from the crown," was for a long time less than the loss on exchange, was accelerated from 1921 onwards as in other countries (Germany, Poland, etc.) where depreciation is such that it becomes customary to make internal prices vary instantly with the exchange quotations; when the crown was stabilised it had reached nearly the same point as the loss on exchange, domestic prices being more or less at the world level. The rise appears *to have been checked almost immediately after the crown was stabilised;*[2] *and, in spite of currency expansion at home, this stabilisation seems to be accompanied by an approximate stabilisation of domestic prices.*

---

shows that, starting with an index of 318·9 in November 1922, a fall took place in April 1923 (278·7), a rise in May (320·2), a fall in October (293·1), a rise in December (325·9) and again in January 1924 (338·8). On the other hand, an index of the lowest type of consumption for food, clothing, rent and intellectual requirements set up by the author is rather different and shows, on the average, a greater rise. This total index, starting at 2·13 in 1914 and rising to 100 in 1921, had reached about 1000 (989) in January 1922, 7132 in August of the same year, and 21,352 in November; it was back at a little below 20,000 in January 1923, and stood above 27,000 in January 1924, thus showing an average increase of 35% between these last two dates, instead of the 15% shown in foodstuffs, the percentage increases being 28% for clothes, 60% for rent, and 80% for intellectual requirements.

This is none the less a low figure in a country where the circulation has almost trebled, and it is still below the percentage increase in other countries where no inflation occurred.

[1] "Monthly Summary of the League of Nations," Vol. III, No. 10, November 15th, 1923, p. 251.

[2] See, in addition to the Reports already quoted, the Memorandum on Currency published by the League of Nations, 1923, p. 17. It should however be noted that the Stock Exchange rates remained abnormal.

§ 12. *Conclusions regarding the present exchange crisis.*

It is probable that some of the conclusions just reached will hardly confirm the set of elementary propositions of which the traditional economic theory was made up. On the other hand, they will not disconcert those who had observed monetary phenomena before the war, and sometimes in distant countries. The most recent monetary crisis presents a picture with more marked features than the one which preceded it; some of the financial, economic and social results of a disordered currency, and above all of unstable exchanges, sometimes appear in a new light, or rather emerge more prominently; but the essential factors in monetary problems and the conditions for their solution hardly seem to have changed; on the contrary, they may be said to have become more evident. Having completed our historical account, we shall now attempt to analyse and then to reconstruct these propositions in the following theoretical chapters.

PART II

THE EXPLANATION OF CONTEMPORARY MONETARY PHENOMENA AND CURRENCY THEORY

CHAPTER I

CRITICISM OF THE CLASSICAL THEORY

The preceding description of the most important monetary phenomena is sufficient to show that the classical theory is inadequate. It is evident, in the first place, that neither the ideas of commodity and quantity nor the empirical proposition called Gresham's Law can satisfactorily explain the working of Bimetallism. The originators of this system, holding as they did the classical doctrines about currency, did not believe that it could survive; it seemed impossible to maintain a stable exchange ratio between two precious metals—gold and silver—both being accepted for free coinage. This was conclusive, and perfectly logical as soon as it was admitted that this *régime* consisted of allowing these two commodities to circulate after they had undergone a merely physical process of transformation by minting, their respective values being determined like that of any other commodity. The experience of three-quarters of a century has shown, however, that it is possible, not only to maintain the concurrent circulation of gold and silver coinage with a fixed exchange ratio between them, but also to maintain an almost equally constant ratio between the rates of these two metals on the world market. This definitely disproves a theory which is still, however, commonly held. We shall show later how an analysis of this phenomenon leads to a different conclusion as to the way in which the value of money is determined and to a different conception of money itself.

We also observed that slight fluctuations in the rate of silver in relation to gold during the period of Bimetallism

and thereafter are not to be explained solely by considering the amounts produced but by a much more complicated set of circumstances, which cannot be adequately understood in the light of a purely deductive theory.

Further, we observed that the confused notion of currency depreciation closely bound up with that of excess production—the Quantity Theory—had led to an explanation of exchange problems which was sometimes exceedingly faulty. The case of India, selected from among a number of others, clearly showed the common mistake of looking for the cause of an exchange crisis and for its appropriate remedy in a mere consideration of quantity, used in the abstract in observing any given currency. We saw that at the time when the problem first arose, the system of free coinage as applied to the rupee had the effect of making the rate of the rupee and the world price of silver interdependent, and that therefore the depreciation of the rupee could not be attributed to the amount of silver *circulating in India*. It was also demonstrated that the recovery and, above all, the stabilisation of the rupee were not due to any diminution in quantity brought about by suspending the mint. For it was possible to resume minting without difficulty after freedom of coinage had been suppressed, at a time when the interdependence of the rate of the rupee and the price of silver had disappeared. Finally, we observed that the depreciation of the rupee and its stabilisation were accounted for simply by the technique of exchange operations. There is a whole theory to be set up in explanation of phenomena of this kind which we will describe later, and which cannot be deduced solely from the Quantity Theory.

On the other hand, an analysis of the most recent monetary phenomena shows that even the internal depreciation of a currency, as measured by a general rise in prices, is not always the result of an exceptional increase in its volume, but, on the contrary, that such an increase may be the result, in the first instance, of a rise in prices, this rise having been in turn caused by an exchange crisis. Such an analysis also shows that even a marked

increase in the volume of currency issued does not always mean a corresponding rise in prices.

It follows that even in a case where the old Quantity Theory seemed to explain the phenomenon much more complex relations of cause and effect must be sought.

Finally, when we come to economic phenomena (such as the supposed equilibrium in Foreign Trade), which are connected with monetary phenomena, it again appears to be necessary to substitute for the older theory of Ricardo with its faulty chain of reasoning[1] and its questionable conclusions, a set of hypotheses derived from a much more detailed knowledge of facts and particularly of exchange mechanism.

In general, the inadequacy of the classical theory in explaining the monetary phenomena of the present time is due to the fact that it consists of blindly applying a few simple principles in an abstract way instead of taking a large number of particular cases, analysing them and then drawing the conclusions which they warrant. It is no doubt true that the old-established law of supply and demand can be seen operating everywhere, but this is not enough. We must examine the objects supplied or demanded and the conditions of the market. Neither in attempting to account for the depreciation of the rupee nor in explaining Bimetallism is it sufficient to bring into play this notion of Quantity as applied to any given currency or to two precious metals. We must ask ourselves what exactly is meant by the ratio between gold and silver (price of the metal in London, in a monometallist gold country bordering on bimetallist countries) and discover what is the situation both from the legal point of view and in practice of buyers and sellers of silver at different times. Similarly, we must ask ourselves what exactly is meant by " the value of the rupee." We must understand that this involves the rate of exchange of the rupee on the London market and inquire what are the circumstances which affect that market at a given moment.

[1] See B. Nogaro, "Le Rôle de la Monnaie dans le commerce international et la théorie quantitative," thesis, Paris, 1904.

The classical theory fails through lack of information as much as through carelessness in stating each problem exactly, and in ascertaining the actual conditions and the legal prescriptions which determine the actions of man, who is often unconsciously the originator of economic phenomena. But neither is it certain that the fundamental ideas, from which its conclusions are deduced, are quite firmly established; and they must themselves be subjected to criticism.

In the remainder of the work we shall therefore follow a logical order; and in the following chapter, which will be devoted to currency and prices, we shall attempt to discover the fundamental ideas of the Quantity Theory.

Thereupon we shall state the theory of the exchanges and its corollaries.

Finally, we shall attempt, with the help of the data which have been ascertained, to define the idea of money and that of a monetary standard.

CHAPTER II

CURRENCY AND PRICE MOVEMENTS

§ 1. *General price movements and the Quantity Theory.*

Of those economic phenomena which appear to be closely connected with the working of monetary systems, the first to be mentioned are the general movements of prices.

As almost all transactions under the modern economic system are effected by means of money, almost all goods and service are exchangeable for money; more accurately, any unit of any given commodity or service is exchangeable for a certain number of currency units; this number of currency units in its relation to the commodity or service in question is called *the price*; the exchange value which is created between each commodity or service and the currency unit is usually expressed by the price. Thus the exchange value of the commodity will increase if the price rises, and that of the currency will correspondingly decline, since more monetary units will be required in order to obtain the same object—and *vice versa*. Moreover, it is possible to measure changes in the average exchange value, or *purchasing power*, of a currency by the movements of average prices. Thus a currency *loses purchasing power* or *depreciates* when there is a rise in prices; its purchasing power increases, or it appreciates in the opposite case. A rise in prices and currency depreciation are therefore equivalent, and express the same phenomenon; this also holds good of a fall in prices, *i.e.*, an appreciation of the currency, for the rise or fall of the currency is in relation to goods or services.

This simple statement has its importance; for often, by mistaking this inevitable correspondence between two

phrases which express one and the same relation for the proof of a relation of cause and effect, currency depreciation is said to "provoke" a rise in prices. This proposition, very incorrectly stated, presupposes a relation of cause and effect, not between the rise in prices and the depreciation—expressions which are only applicable to one and the same phenomenon—but between the rise in prices *or* the depreciation and some factor to which it is attributed, such as an increase in the volume of currency. This is, no doubt, an hypothesis which deserves to be considered; but it is desirable not to embody in a chain of reasoning, by a mere confusion of words and ideas, a notion which itself requires justification. Nevertheless it is supposed, in virtue of the old law of supply and demand, "that prices change when the amount of currency varies, the amount of commodities remaining constant, and *vice versa*." Starting with this principle, it is tempting to attribute any upward or downward price movement to a change in the volume of currency. If all prices move at the same time and in the same direction, surely it is much more reasonable to attribute this general phenomenon to some general cause than to suppose that changes are taking place in the various factors, such as the cost of production, which may separately exercise a similar influence over the value of each of the objects sold. This plausible argument loses much of its force when we come to consider, on the one hand, that so-called "general" upward or downward movements are often nothing but averages, and on the other that a rise in a few commodities (raw materials, motive power, etc.),[1] with an effect upon the price of many others, is sufficient to provoke such average movements. Hence it appears that *moderate variations occurring in periods undisturbed by crises* need not necessarily be attributed, *a priori*, to a monetary cause.

[1] The relation between prices may also be more complicated, as shown by M. Ansiaux in his article on "Les prix solidaires" (*Revue de l'Institut de Sociologie*), Vol. II, No. 2, March 1920. See also "Traité d'économie politique," by the same author, and T. N. Carver, "Principles of Rural Economics," p. 163, and Seligman, "Principles of Economics," p. 253.

It should, however, be added that when a really general price movement takes place, *i.e.*, one which involves nearly all commodities, and is also continuous and extensive, it is reasonable to seek some cause which is also general, and may result, in the event of a rise, in a general increase in purchase prices, due to an increase in the volume of currency in circulation, or in selling prices, due to a decline in production.

And so, even on the hypothesis of a general, wide and continuous price movement, and still admitting the principle of the Quantity Theory, we ought not to exclude, *a priori*, the factor of commodity; but it seems that we should be particularly justified in taking into account the monetary factor.

§ 2. *The Quantity Theory in History.*

Moreover, some historical facts seem to bear out this hypothesis. We may mention the rise in prices in the 16th century, which, even then, was attributed by some contemporaries to an enormous influx of precious metals.[1]

[1] In addition to various works by Levasseur, de Foville, and D'Avenel and G. Wiebe, *Zur Geschichte der Preisrevolution des XVIten und XVIIten Jahrhunderts*, a recent thesis on the subject by M. A. Liautey, "La hausse des prix et la lutte contre la cherté en France au XVIème siècle," may be mentioned. In spite of these interesting contributions to the subject it is difficult to measure price fluctuations during this period with any degree of accuracy. The rise seems to have begun to make itself felt before the main influx of precious metals began and continued after their production had declined; but the steepest rise seems to have occurred in the third quarter of the 16th century at the time when the increase in the world stock of metal was most marked. This explains Jean Bodin's theory of cause and effect, which fits in so well with the doctrines ordinarily held that it has been accepted as decisive. The attention of most contemporary observers, however, seems to have been drawn to other factors, and chiefly to the fall in production during a period of war and other disturbances, and to the monetary policy adopted during this period. This last point, which is emphasised by M. de Malestroiet, deserves to be noted. In the 16th century, at least in France, the Crown debased the weight and fineness of currencies to a small extent; but it forced up their value, by continually raising the value of a gold or silver coin in livres, so that a smaller and smaller weight of precious metal corresponded to the livre or money of account. M. de Foville has estimated that in this way the livre

We should also note, but with some caution,[1] the rise in prices in the middle of the 19th century which accompanied the discovery and working of new gold mines, the rise which began during the last years of the 19th century and continued during the early years of the 20th century before the outbreak of the Great War. It is true that this last phenomenon was accompanied by a very considerable increase in gold production in Australia and South Africa; but it also coincides with a whole set of new facts, a general rise in Customs duties, the development of labour organisations tending to restrict competition, trusts, cartels, etc. Hence scientifically we do not appear to be justified in holding for certain and *a priori* that there was a relation of cause and effect between this phenomenon and one of its possible antecedents, after ignoring other factors which exercised an influence in the same sense, and which might afford a sufficient explanation.[2]

---

suffered a depreciation of 33% in France between the end of the 15th century and the last quarter of the 16th century. Moreover, during this period, and as a result of continual alterations by public authorities in the purchase price of precious metals both at home and abroad and in the scale of values applied to coin and as a result of the concurrent circulation of all kinds of different currencies, new and old, national and foreign, the public was led to check as well as it might the fineness of the metal content of coin and to consider that fineness a factor in fixing commodity prices. Lastly, it should be added that no such concordance between the production of precious metals and prices is to be found in the 17th or 18th centuries.

[1] The trend of prices in this period is hardly more marked than such upward movements as have been observed to occur as a part of the fluctuations attendant upon a boom in trade crises. For instance, Sauerbeck's index number for England rose from 78 in 1852 to 102 in 1854 and to 105 in 1857 and then fell to 91 in 1858. The United States index rose from its lowest point, 125, in 1852 to 138 in the short period between 1854 and 1856, and then fell to 124 in 1858. (See Aftalion, "Les crises périodiques de surproduction," Vol. I, p. 20.)

[2] It should also be pointed out that with the modern development of credit machinery and methods of clearing, the relation between the gold stock and the entire amount of available funds is very complicated and variable. Nevertheless it will be observed that price movements and variations in gold production almost synchronised after the end of the 19th century. The production of gold, which had reached an annual average of nearly 700 million francs between 1857 and 1860, fell slowly to slightly more than 600 millions between 1881 and 1890, rose to nearly 850

It is rather in cases where inflation on a very large scale has occurred as the result of expanding paper currency that it is tempting to seek a more or less obvious symptom of the effect of an increase in the number of monetary units upon the general price level: the issue of assignats during the French Revolution offers an example of this; even this precedent, although it is authenticated and typical, does not demonstrate a complete concordance between these phenomena.[1] Moreover, in quite

millions between 1891 and 1895, then suddenly to 1300 millions between 1896 and 1900, and gradually reached nearly 2½ milliards before the war (1911–12). The average level of prices, as shown by the index numbers, fell between 1874 and 1896 or, in some countries, 1897, if we except temporary rises in 1880 and again in 1889–1890. Then it rose from 1897–1898 onwards, except for a temporary fall from 1901 to 1904 and again in 1908. M. Rist, in his study of changes in French monetary stocks and prices during this period ("La circulation monétaire française et le mouvement des prix," *Rev. d'écon. polit.*, 1914) also points out a general concordance between the two curves (though the price curve is much more regular than the other), to the extent that currency expansion began in 1891 and that the fall in prices lasted till 1897. (See also on this subject, A. Aupetit, "Essai d'une théorie générale de la monnaie," thesis, Paris, 1901, and R. Lenoir, "Étude sur la formation et le mouvement des prix," thesis, Paris, 1913.) It may therefore be said that apart from the possible effect of fluctuations due to the Trade Cycle, there is a general coincidence between the two sets of facts, in that the gold production showed a marked increase from 1891 onwards. This coincidence certainly deserves to be noted, although it does not warrant scientific conclusions so long as it is not possible to estimate the effect of the other factors mentioned above, which are just as susceptible of furnishing an *a priori* explanation of the moderate rise in prices at the end of the 19th and the beginning of the 20th century (from 61 in 1896 to 75 in 1900, from 70 in 1901 to 80 in 1911, and 85 in 1912, according to the British Index number).

[1] The depreciation, for instance, began very slowly and several times diminished, although the note issue continued to expand. This is shown in the table set up by the Treasury and annexed to the law of the 5 Messidor of the Year V. One hundred livres of assignats were still worth 90 francs at the beginning of 1791 (although the issue had started at the beginning of 1790 in pursuance of a decree of December 19–21, 1789), and the circulation had reached 1200 millions and was double that of coin, and no longer carried interest. Again, it will be observed that while the assignats fell to 79 francs in August of the same year, they recovered to 84 in October. Similarly, in 1792 they fell to 72 in January and 59 in March, but recovered to 72 in December, and again, having fallen to 22 in 1793, recovered to 40 in January 1794. It was not till 1793 that the depreciation

recent cases, such as that of Germany, the rise in prices seems to have been chiefly caused by the exchange, and inflation appears to be an effect rather than a cause. The case of Czechoslovakia should also be borne in mind.

Apart from these extreme cases of unlimited currency expansion, the last war offers examples of a comparatively moderate issue which ultimately trebles or quadruples the pre-war circulation, and is accompanied by a rise in prices of the same dimensions. Here again it seems reasonable to attribute this phenomenon to the effect of inflation on prices. At the same time, a large share in the maladjustment of demand and supply must be assigned to underproduction and to the difficulty, risk and expense of transport, also due to war conditions.[1] To all appearance the expansion of the currency is only responsible for a part of the rise in prices—a part which it is almost impossible to determine; but in any case it may well have contributed to making the rise permanent by bringing the amount of available currency into proportion with the new level of prices.

Again it is difficult to find any exact proof of this hypothesis by comparing currency and price variations in each country during the war, and it is also difficult to find a proof in a comparison between different countries at the same point of time.

It is, of course, true that there is a general concord-

---

became catastrophic, with a drop from 18 francs in Nivose of the Year III to something between 0·3 and 0·4 in Ventose. See, on this point, the tables showing the depreciation of paper money edited by M. Pierre Caron. See also Marion, "Situation monétaire de la France depuis 1715," and M. Albert Despaux, "L'inflation dans l'histoire," in which the author attempts to bring out the various causes of the depreciation of the assignats and of the fluctuations in their value.

[1] Thus M. A. Nigh, in a thesis on "La politique financière des Pays Bas pendant la guerre," observes that there was continuous currency expansion in his country, whereas the upward movement of prices was often interrupted; hence prices appear to him to have been determined, not only by changes in the volume of currency, but also by special causes, which suffice to explain each case—in particular the grant or refusal of export licences, the torpedoing of vessels, the signature of agreements with foreign countries for the delivery of coal, etc. (pp. 81, 82).

ance between the increase in the currency and the rise in prices, and that it became more marked in each case as hostilities were prolonged.[1] Some economists may have thought that this approximate parallel was sufficient to convince those who were still doubtful; it would certainly be very impressive if it were somewhat more exact and if the war had not itself been capable of causing simultaneously, but separately, the increase in the currency and the rise in prices. But it is impossible to determine by merely observing this coincidence whether one phenomenon follows from the other, or whether both are a direct result of the same cause: the existence and duration of a state of war involve frequent recourse to new issues of currency, but may also explain the rise in prices merely by the decline in production of commodities in common use. Moreover, on a closer examination, the following facts emerge.

In all the countries under consideration it is true that both an increase in the currency and a rise in prices took place if a comparison is made between the beginning (August 1914) and the end (1919 or 1920). But prices do not always rise just when a large increase in the circulation has taken place. Thus in France during the long period from November 1918 to March 1919, a rapid increase in the paper currency occurred simultaneously with a cessation in the rise of wholesale prices; on the other hand, the enormous rise in wholesale prices which declared itself at the end of 1919 proceeded from November 1919 to July 1920 at a time when the note issue remained almost stationary. Similarly in England, the note issue expanded enormously between the end of 1917 and the end of 1918, but wholesale and retail prices hardly rose at all during this period; on the other hand, prices rose sharply in December 1919 just at a time when there occurred a temporary contraction of the currency. These facts may no doubt be explained by the observation that the effects of currency expansion on prices do not make themselves

[1] See M. Gide, "Les mouvements des prix et leurs causes," Br. Paris, 1922.

felt at once, but they also constitute a warning not to forget that many different factors influence general price movements and that currency expansion itself may have complex results.

Attempts have also been made to confirm the Quantity Theory, not by examining the curves of the note issue and of prices in one country, but by comparing at a given date, *e.g.*, the end of 1919, monetary inflation and prices in various countries with the object of discovering whether the rise in prices is proportionate to the inflation. Thus after allowing for the part played by larger or smaller bank deposits M. Rist[1] has drawn up a comparative table showing currency expansion in various countries between 1914 and 1919, and arrives at the conclusion that during this period the greatest rise in prices took place in those countries where currency expansion was greatest.

An inquiry made in England led to similar results, but calls for the same reservations.[2] This is the most significant phenomenon observed for this period, although the comparison involves very few countries, chosen perhaps because they seemed to afford a better illustration of the theory. But even so, it is not possible to draw absolutely certain conclusions; for apart from the difficulty of comparing the effects of currency expansion in various countries whose credit structures differ widely, other economic factors must be admitted as being perhaps adequate to account for the differences shown; for instance, differences in the rate of exchange, in freights, in the price of coal, in the organisation of consumers, may very well account for the fact that prices rose more in Italy than in France and in France than in England, apart from the fact that normal production was much less affected by the war in Great Britain, the United States

[1] *Rev. d'écon. polit.*, June–July 1920.

[2] In the British Parliamentary Papers, "Statement on Currency Expansion, Price Movements and Production in Certain Countries," analysed in *The Times* of June 11th, 1920, a table will be found showing similar results as regards the rise in prices and currency expansion in Italy, France, Sweden, Japan, Canada and the United States.

and Japan, than in belligerent countries on the continent of Europe.

The post-war period may seem to offer more favourable opportunities to examine these two phenomena, although the end of hostilities may account both for the decrease in note issues and for the increase in the production of commodities and hence for the fall in prices. Moreover, the two phenomena of currency contraction and declining prices are only approximately parallel in most countries after 1920. If the price index (wholesale) and the monetary circulation (total circulation for the United States, note issue for other countries) are each put at 100 in 1919, a table issued by the League of Nations [1] shows up to the end of 1922 their respective movements every quarter in about fifteen countries. Now, in almost all, the fall in prices preceded the contraction of the currency—especially in the United States, Great Britain, France, Spain, Sweden, South Africa and Japan. In the last-named country the note issue even went on expanding until the end of 1921, the index reading 103·8, whereas the fall in prices began in January 1920 and fell from 111, the figure at which the index stood on that date, to 72·6 in December 1921.

These observations will obviously not fit in with the theory that price changes are connected with changes in the monetary circulation, and that deflation is the cause and necessary pre-requisite of a fall in prices. And so one author, who has hitherto firmly held that the Quantity Theory comes into play like a piece of automatic machinery, has himself explicitly admitted that, particularly in England and the United States, the essential factor in a fall in prices is not a contraction of currency but a contraction of credit and the resulting crisis. He thus sees in currency contraction, not the cause but the effect of the fall in prices.[2]

Again, it should be observed that although there may have occurred simultaneously during the period imme-

[1] "Memorandum on Currencies, 1913–1922," Geneva, 1922, p. 11.
[2] Rist, "La déflation en pratique," Paris, 1924.

diately following the war from 1919 to 1922 a general contraction of currency and fall in prices, the latter was on the whole *much more marked* than the former; for in most of the countries under consideration the circulation was only reduced to a small extent. Taking the index at 100 for 1919, it moves in some few cases to about 80 (Sweden, Canada), more often to about 90 (Switzerland, New Zealand, Austria, Denmark), to 98 (France, Netherlands), or even rises ultimately to above 100 (Japan, South Africa, Spain) by the end of 1922. The price index, on the other hand, falls to about 50 or 55 (Sweden, Great Britain, Denmark, Holland), 60 (South Africa, Japan), 70 (United States, Canada, Norway), and 80 (Australia, Spain, France).

This series of facts, *viz.*, that the fall in prices generally preceded the contraction of the currency, that the fall was in almost all the cases under observation much greater than the diminution of the currency and, finally, that the fall sometimes even coincides with an increase in the currency, runs counter to that rigid conception of the relation between the two phenomena which appears to be the logical result of the Quantity Theory.[1] Doubtless it may be objected that conclusions drawn only from statistics of issues of currency, without taking into account in each country its credit structure, are insufficient. But the same criticism will apply to whatever theory is adopted and must throw the same doubt on the results of comparing variations in currency and prices both when they coincide and when they diverge.

For the present we will confine ourselves to summarising the most important facts which have now been ascertained and which, taken as a whole, may appear to conform in general ways with the principles derived from the Quantity Theory. They may be described as follows: the rise in prices which occurred in the 16th century; the depreciation among other paper currencies of the assignats; the rise in prices which occurred in the middle and again

[1] See *infra*, where this idea, especially as expressed by Mr. Irving Fisher, is discussed.

at the end of the 19th century and at the beginning of the 20th century; the rise in prices during the war (and the fact that in some countries it appears to be in proportion to the expansion of the currency); and the fall in prices after the war.

But this general concordance does not show there is in all cases an obvious relation of cause and effect; for other factors may have influenced prices, chiefly, in the 16th century, the valorisation of currencies at too high a point, war and famine. From 1914 to 1918 the war may have given rise both to the issue of paper money for financial reasons, and, by limiting production, to the rise in prices. Similarly, the end of hostilities may account both for the stoppage of inflation in the period immediately after the war and for the fall in prices consequent upon a return to normal production following a crisis. In this case, as has been pointed out, definite reservations must be made because (1) the fall in prices preceded currency contraction and (2) it was much more than proportional to this contraction. Conversely, a fresh rise in prices occurred in 1923, particularly in France, when the circulation was more or less constant.

Again, it must be admitted that at times when the rise in prices was much smaller, especially at the end of the 19th and beginning of the 20th century, non-monetary factors such as the raising of Customs duties and indirect taxes and the limitation of competition among producers might perfectly well have sufficed to account for the phenomenon. A detailed examination with a view to determining the other factors in the rise in prices would be necessary in order to estimate the probable effect of the monetary factor—or to discard it. The same remark applies to the comparison between the rise in prices in various countries during the last period of the war, but with this difference that still other factors, especially the exchange, are partly responsible for explaining the differences.

And so, apart from periods of great disturbance—when the monetary factor is not alone responsible, and which are therefore also subject to some reservation—it appears

to be almost impossible to discover any complete proof of the Quantity Theory in a few summary comparisons in which other possible relations of cause and effect are ignored. At most, it may be pointed out that there are a few concordant phenomena, which militate in favour of the theory, but which do not justify any *a priori* rejection of other possible explanations; for in order to discard the influence of certain factors it is not enough merely to set them aside as if they did not exist.

Moreover, recent events subsequent to the war have run counter to the current theory. The monetary crisis in Germany, in which superficial observers might see a confirmation of this theory (since inflation occurred simultaneously with a rise in prices), on the contrary introduces a new element of doubt on closer observation. For, taking the index of 1919 at 100, prices will be seen to have been stationary between the second quarter of 1920 and the second quarter of 1921 at about 170, and indeed to have gone back since the first quarter of 1920 (index 213), while the circulation, which had previously been lagging behind price movements, thenceforward showed a marked increase, the index being 118 for the first quarter of 1920, 136 during the second quarter of that year, and 170 for the second quarter of 1921. On the other hand, after the second quarter of 1921, the rise in prices far outruns the increase in the circulation, so that this apparent inflation merely constitutes some attenuation of the tremendous contraction resulting from the enormous disproportion between the level of prices and the number of monetary instruments. Taking an index of 100 in 1919 for both prices and circulation, the former reached an index of 18,377 in December 1922, whereas the index of the circulation did not exceed 2587.[1] Surely the fact that contraction is so powerless to counteract a rise in prices can with difficulty be reconciled with a strict application of the Quantity Theory.[2] Finally, the

[1] See memorandum of currencies for 1923, p. 12. See also the figures quoted above, p. 65.

[2] The objection may, of course, be made that if prices rise without any

year 1923 brings a curious check; between February and April the circulation nearly doubled—it rose from 3513 milliards of marks to 6546 and prices tended to fall.[1]

Finally, two recent experiments, so far from contributing any precise proof of this theory, give rise to serious doubts, *viz.*, the monetary reform in Czechoslovakia and the monetary reform on Austria. In the first case, a policy largely based on the Quantity Theory showed that the limitation and even the contraction of a currency did not prevent prices from rising considerably between 1919 and November 1920. The index reached about 1500 in 1920 (the base index being 100 for 1914 and the figure at the end of 1919 being about 700) and showed a level of prices which, in 1920 and the first quarter of 1921, was at least as high as in Germany, where inflation has been continuing. Moreover, at the very time when a fresh increase in the circulation (12 milliards of crowns as against 8 milliards when the monetary reform took place) brings it to its maximum, prices begin to fall;[2] and here again we find that the fall was much sharper from 1922 onwards than the further reduction in the circulation, *viz.*, 100 to 67 as compared with 100 to 89.

On the other hand, we have another counter proof in experience in Austria, where the note issue trebled between September 1922,[3] when the exchange was stabilised, and the end of 1923 without being accompanied

apparent inflation, the increase in clearing operations or setting off debts, if it does not bring about an increase in the number of real units, at least multiplies the number of units of account proportionately to the rise in prices. But the fact that, in spite of a restriction of the number of monetary instruments, methods of settlement tend to increase proportionately to a rise in prices, shows that prices are not proportionate to the number of "physical" monetary instruments, which alone can be regulated in quantity by public authorities.

[1] It may be added that this was a period of stable prices. As soon as methods directed towards stabilisation ceased to operate, prices resumed their upward movement. See Aftalion, "La circulation, les changes et les prix," in the *Revue Economique Internationale*, February 1924.

[2] It has been pointed out above that this double price movement again corresponds very exactly with the movements of the exchange.

[3] See above, p. 91.

during this period by any greater rise in prices than occurred in countries with a constant circulation.[1] These observations suggest that, with the disappearance of causes such as war, which give rise both to abnormal issues (the financial situation) and to a rise in prices (under-production, exchange, etc.), it is no longer easy to prove that simultaneous variation of these two kinds of phenomena in which the Quantity Theory finds its origin.

In any case it will be observed that it is not enough, in order to justify the Quantity Theory and show that it is *universally* applicable, to rely on a few historical coincidences; and it no longer appears, as at first sight, to follow quite simply and inevitably from that interplay of supply and demand which is a fact of common experience. We will therefore now attempt to discover the logical basis of this conception, which is at present imperfectly established by the sum total of our observations of a few experienced facts.

§ 3. *The basis of the Quantity Theory; how far it is logically valid.*

If we are prepared, subject to further analysis, to admit in its most general form the proposition contained in the Quantity Theory, and if we hold it to be generally justified *in extreme cases*, we shall in particular note that any considerable and persistent price movement connoting an equally considerable and lasting change in the circulation should be assumed to be connected with that change and that the latter should be considered a factor, and perhaps a predominant factor, in the price movement.

But many authors go further than this; in the first place, they state that the quantity of money will neces-

[1] See above, p. 93. M. Aftalion, in the article already cited, points out that in Poland, also, prices remained at about the same level from October 1921 to January 1922, in spite of a considerable increase in the note issue (183 to 227) and at a time when the exchange was almost stable.

sarily react on prices, in the manner indicated by the theory; they hold that this reaction will be *continuous and proportional to the changes in the stock of money, whatever the extent of such changes*. In spite of the impossibility of separating, in any attempt at proof, the Quantity factor of money from other factors which may influence prices, some authors will even hold that quantitative changes in the circulation will overcome, absorb and ultimately neutralise the influence of other factors. Mr. Irving Fisher has said only recently that the general price level cannot rise for any considerable period except as a result of an increase in the circulation and cannot fall except as the result of a decrease in the circulation.

A fairly simple explanation of this automatic and rigid conception will be found in the following argument. If, as a result of some technical cause, prices tend to rise, but the existing stock of money is insufficient to purchase all the goods offered at the new level, the demand will necessarily fall off and prices will then fall back to the previous level. If, on the other hand, prices tend to fall, the currency which has thus been set free will nevertheless influence the market, create a fresh demand and force up the general price level. Hence *the existing stock of money will always be sufficient* for transactions to be completed, prices being adjusted automatically by the scarcity of money. Thus money will always be, as it were, absorbed by goods; for this reason no lasting fall in prices can occur without a decrease in the circulation.

This theory, to which we shall return, seemed to acquire peculiar force in the writings of certain economists, who put it in rather a different form. They consider that prices express two kinds of relations, the exchange ratio between goods and the exchange ratio between goods and money, as though these two kinds of relation were established successively and *as if transactions, once concluded, created a demand for money*. If the problem is put in this form the Quantity Theory is greatly reinforced, because the supply and demand of a medium of exchange will be greater or less according as that medium is present in

larger or smaller quantities, and ultimately we arrive at the statement that "prices are proportional to the ratio between the required transactions and the amount of currency." But in fact *there are not two separate and successive kinds* of exchange ratio. Except when one currency is purchased by another (foreign exchange), the medium of exchange is not in demand. Only one exchange ratio is established—*i.e.*, between goods and money, and from this are derived the exchange ratios between goods. Thus the problem is incorrectly stated.

It may, of course, be objected that, even if money is not in greater or less demand, the demand for goods is in terms of money, and, therefore, when money is plentiful goods are in greater demand and prices rise, as though it were money which is in less demand. But the result is no longer the same; for on the supposition that there are purchases and sales to be made, that there is a certain volume of transactions to be effected and that there is a limited amount of currency available for the purpose, the necessary deduction is that prices will vary with the demand for currency. Those writers who are under the influence of this idea believe that the stock of money must necessarily be adequate to all transactions and must be entirely used up by them. However complicated the real mechanism of transactions may be, this principle holds good. For it is when goods are limited in quantity, when production cannot be rapidly increased to meet increasing consumption, that supply and demand come to play an essential part in the determination of exchange value.

But when we come to consider, not an imaginary demand for money by parties to transactions, but the demand for goods by purchasers, we only have to refer to our general knowledge of the conditions governing exchange value to see that supply and demand do not have an equal effect and perhaps that they do not necessarily affect the prices of all goods. For instance, constant experience shows that the volume of demand will obviously influence the price of certain goods, *e.g.*, vegetable

products, live stock, minerals which are used as raw materials, stocks and shares, etc., which have a regular market, and the production of which cannot be suddenly increased. On the other hand, in the case of manufactured goods where production is much more elastic, the influence of supply and demand on prices is much less certain. In many cases, their influence may be nil, because an increase in supply meets an increase in demand and they continue to balance each other. It may even have a reverse effect, because an increase in production may lower the cost price by effecting economies in labour or material, or a better division of labour, or technical improvements, or a greater degree of concentration. If we ask certain classes of manufacturers, or if we look back on our own experience as consumers, we shall see that an increase in demand is hardly likely to provoke a permanent rise in "fancy articles," motor cars and a thousand other industrial products, so long as their production goes on regularly.

And so, while the Quantity Theory seems to apply inevitably and automatically on the assumption of a demand for money—an assumption which is unreal except in the case of the exchanges—it works much less exactly when we consider the effect of the stock of money on the demand for goods.

Moreover, it is by no means evident that, in accordance with Irving Fisher's premises, a rise in prices, due to technical causes, would yield to a decline in demand if the stock of money were not increased. It is possible for prices to rise while the quantity of available money remains stable because consumption may have declined. And apart from this, as we have already seen, particularly in the case of Czechoslovakia, if a rise in prices is caused by some external factor such as the exchange, the necessary money will create itself in proportion to requirements, and money of account, in default of real money, will be increased by means of clearing operations. Conversely, it is perfectly conceivable that a fall in prices may take place under the influence of an increase of production and competition in selling. The consumer in

fact has little bargaining power; if a rise occurs and he is faced by the proposition "take it or leave it," he can only show passive resistance and withhold his purchase; again, he is not really in so strong a position as is commonly supposed to stimulate rise in prices which, moreover, is against his interests; for the money with which he is left after a fall in prices will be saved by him, and will only come back into circulation after many deviations, and not without having itself contributed, as we shall see presently, to an increase in production.

In any case, events have themselves clearly falsified the forecasts which were made by Mr. Fisher in 1920. For, as we have seen above, the fall in prices occurred more or less all over the world before currency contraction took place and it went much further.

It is quite impossible to understand the effect of inflation and deflation by making a crude comparison with the interplay of supply and demand *on a closed market*; the process is more complicated.

The first effect of an increase in the circulations artificially produced on a grand scale when a State has recourse to excessive issue of paper money is to swell the working capital of certain heads of industry who have State contracts; it then progressively increases their earnings and the earnings of those who work for them.[1] It is easy to understand how, *especially in war-time when this increased economic activity will not result in an increase of the volume of consumable goods*, the increase in earnings will stimulate expenditure and so a rise in prices. But the mechanism of deflation is different. The State borrows in order to reimburse the bank and the capital which it uses in order to replace the notes which it has obtained and cancelled is withdrawn from other uses. Thus currency contraction has as its first effect a *contraction of*

[1] The demand arising from these issues is added to the demand due to the previous available resources of purchasers; and so there occurs an increase in turnover, and of income, due either to an increase in the volume of goods sold or to an increase in their price. Thus an increase in volume of money put into circulation coincides with an increase in money incomes.

credit. It is not till later that the earnings of consumers are affected owing to the consequent crisis or slump in trade, and then only if the decrease in the effective circulation has not been counterbalanced by the development of banking processes, whereby unemployed holdings are reduced to a minimum and the existing stock of money is made to circulate with much greater velocity.[1]

Finally, the Quantity Theory only takes into account the influence of the volume of currency in so far as that effect makes itself felt through the *consumer* upon goods *already produced*. It neglects the influence which an increase or decrease in the volume of currency in circulation may have upon production, and thereby on the *supply* of goods. But such variations are far from negligible in this respect. In order to see this, it is only necessary to observe the efforts of banks to put into circulation as much money as possible by inducing private individuals to make deposits which are used for credit operations. This process, so far from being unknown to economists, is emphasised in those passages which deal with banking, but its effect on production, and so also on the supply of goods, is generally forgotten in sections dealing with monetary theory.[2] Now under different headings and

[1] It should also be pointed out that in expounding the Quantity Theory its application through an increase or decrease in the amount of money has been considered in a market *in which, by hypothesis, the money is immediately and entirely spent in purchases and in which any increase or decrease in the amount of money therefore corresponds exactly to a proportional variation in demand. Now it is far from true that any variations in the monetary stock of a country correspond to variations in the demand for goods in the same country;* currency circulates with greater or less velocity, it will lie in larger or smaller quantities in the pockets of individuals or the vaults of banks, which sometimes increase the velocity of circulation by a liberal credit policy, *i.e.*, by lending money deposited with them, and sometimes reduce the effective circulation and purchasing power by contracting credit.

[2] Present-day economists have readily acknowledged that the introduction of the credit factor complicates the mechanism of trade, and several English writers (in particular Keynes, in his "Tract on Monetary Reform," and Hawtrey in "Currency and Credit") have analysed the question. But those economists who follow the method of deduction have commonly neglected the compensating effect of credit on supply. Moreover, however cautiously they may speak of the application of the Quantity Theory in a

using different words, speaking sometimes of the expansion of credit and sometimes of an increase in the quantity of money, and looking at the question from different angles, it is always the same phenomenon which is under consideration. By accepting deposits and using them to give credit, banks put into circulation money that would not otherwise circulate. They thus increase the demand for goods and incidentally stimulate a rise in prices during a boom which is often followed by a slump. But also—and this is the point which is of essential importance in any description of credit machinery—by supplying manufacturers with the means of purchasing equipment, raw materials and labour, they foster production and therefore the supply of goods and so ultimately create one of the factors in a fall in prices.

Nor does the problem appear in a different light when, setting aside any particular mechanism for increasing the circulation, we come to consider the effects of such an increase. Whether the increase in the amount of money in circulation[1] is produced, as described above, by the practice of making bank deposits, or whether a Bank of Issue in a country like France, where the practice of making bank deposits is less common than in England, issues uncovered notes and thus directly increases the number of monetary

community where credit is highly developed, they reason as if its effect were continuous and proportional to the factor of money; out of this has grown the theory of purchasing power parities and of the stabilisation of exchanges by contracting and expanding the circulation, which will be discussed later.

[1] We say advisedly "in circulation," for an increase in the amount of money only has an effect in so far as its circulation increases. Contrary to the statements contained in certain official documents, money which is hoarded has no effect on demand and therefore on prices. Possibly hoarding may increase the amount of notes which leave the vaults of banks, since they have to be replaced, but it does not increase the circulation in the exact meaning of the term. Conversely, it is not necessary that the stock of money should rise in order that the circulation should increase; it will be enough if credit is adequate to this increase in the amount of money in circulation. Therefore the French financial administration, in passing strictures on persons who hoard money and in advising the public to use cheques, *i.e.*, bank deposits, to a greater extent "in order to reduce the circulation" are making a double mistake from the theoretical point of view,

instruments in circulation, the problem in so far as it concerns the relation between money and prices remains the same. There are two effects which run counter to each other. The first is to increase the demand for existing goods and create a tendency to a rise in prices; this is followed by increased facilities for production, in so far as demand has stimulated the acquisition of means of production, and this creates a tendency to a fall.

Although we have become familiar through practical daily experience with the idea that credit may be, as it were, deliberately fertilised, it is surprising to find that the idea emerges from this analysis of the problem that an increase in the quantity of money may stimulate production and "create wealth." And these two conceptions are usually so little identified with each other in the minds of economists that some have even explicitly disallowed the second of the influences to which we have referred.[1] But it should be observed that a mere increase in demand may be enough to stimulate production; a number of manufacturers will be able to produce more with the material and labour at their command. Moreover, the transfer of purchasing power to undertakings which are in process of creation or development creates one of the conditions required for technical progress; and so by promoting the exploitation of latent resources and encouraging the more profitable methods of use of production this non-material and somewhat artificial form of wealth of which a monetary instrument consists may become the origin of real wealth.

Obviously the normal method of attaining this end is to put into circulation as quickly as possible the money

[1] Certain economists before the classical school, in particular the financier Law, had pointed out the stimulating effect of an increase in the quantity of money. While implicitly recognising this idea when investigating credit, the economists of the classical school contest it when they come to deal with money. Being chiefly concerned with fighting the "wealth" fallacy, they state that money will only facilitate transactions, as oil lubricates the works of a machine, and refuse to allow any creative power.

We have, indeed, observed that though an increase in the circulation increases production by stimulating transactions, its power is limited by the possibility of putting to better use means of production which already exist.

received by individuals in the course of previous transactions. This money, representing as it does the value of goods and services previously supplied, ought, it seems, to enable an equivalent volume of goods and services to be produced without disturbing the market, and this putting into circulation of money is the proper function of credit. But as the credit machinery is not perfect enough to allow all the reserves of money to be mobilised as soon as they are created, it is possible to compensate for that part which lies idle by making uncovered note issues, *i.e.*, by issuing supplementary money.[1] And so we see how an increase in the amount of money in circulation will contribute to increasing production and therefore the supply of goods. And the cumulative effect of these observations is to confirm the statement already made that variations in the amount of money will operate in two contrary directions; an increase in the circulation tending at first to provoke a rise, by increasing the demand for goods, and thereupon becoming a factor in a fall in prices through its influence on production and supply. But the latter influence is less rapid and can only make itself felt in so far as there are already in existence latent resources capable of being put to better and more immediate use.

Thus we find on the whole that while the Quantity Theory is based on the observations of actual experience, this observation has been confined to a closed market at a given moment, and with a stock of money which is at once used up in the purchase of a limited stock of goods; a market which is, as it were, stationary, so that supply can never adapt itself to demand; but the classical school extend the theory to markets which receive a flow of goods, continually renewed, to a whole country, and to the world at large in its full activity. Lastly, it only takes into account one of the two influences which may be exercised by variations in the amount of money, *i.e.*, the effect which they have through consumers and not the two successive effects, one tending to increase demand, the

[1] See B. Nogaro, "Traité Élémentaire d'économie politique," "Le crédit," Sect. III, Ch. I, § 3.

other supply, which are revealed by a "dynamic" study of the problem.

Subject to this reserve, it should, however, be pointed out that the latter influence is necessarily limited by the practical possibility of developing methods of production, whereas the artificial stimulation of demand by fiduciary issues may be unlimited; it does not take long to double the volume of paper money; it would be impossible in the same period to double a country's production.

The Quantity Theory, therefore, appears to be justified in so far as a change in demand may correspond to a change in the circulation and in that it explains a rise in prices which exceeds the limits of a possible increase in production; it therefore seems justifiable to use it in explaining a sudden and considerable increase in the volume of money; and in such cases it seems to square with the facts more often than not.

On the other hand, it seems to us equally difficult to prove theoretically or practically by isolating the factors under consideration, when we are dealing with slow and small changes in the circulation. For then it is exceedingly difficult to know whether a change in the volume of money corresponds to an equivalent change in demand; moreover, the production and therefore the supply of goods may be stimulated at the same time as demand. It cannot therefore be admitted that the influence of money on prices can be held to operate continuously and consistently whatever the scale involved. Small variations in the volume of money are an unknown factor, which in any case is negligible, and we believe that the importance which is assigned to it in the explanation of monetary phenomena is illusory: for instance, in Ricardo's old theory of international trade,[1] or in more recent theories which attribute variations in the exchanges to small variations in the volume of money, we believe, not only that the quantity hypothesis cannot be proved by the figures, but also that for the reasons given it is not logically sound.

[1] See B. Nogaro, "Le rôle de la monnaie dans le commerce international et la théorie quantitative," thesis Paris, 1904.

Now ought we to deprecate our ignorance on this point? Some economists are of this opinion, and, like M. Rist, after noting the enigma contained in the experience of Czechoslovakia and some others, cling in desperation to the Quantity Theory, "without which the principal stages in the history of prices would remain incomprehensible."[1]

From the above account it would seem, on the contrary, that we can retain enough of the theory to explain these important historical events, without rejecting, *a priori*, other factors which may also serve, and sometimes even suffice, to make them comprehensible. But we believe, on the other hand, that there is nothing but harm in trying to invent theories which are more rigid than the facts themselves. We shall see that the chief monetary problems come down to exchange problems in which it is not the abstract Quantity Theory which plays a part, but the supply and demand of an external currency by holders of an internal one under circumstances which vary as between one country and another and one period and another, according to the legal conditions and actual circumstances which determine the working of the monetary system. And we shall observe that the Quantity Theory, so far from making easier the solution of these problems, has long been instrumental in discarding exact and reasonable explanations in favour of superficial and unreal ones.

[1] "La déflation en pratique," p. 96.

CHAPTER III

THE THEORY OF EXCHANGE AND ITS COROLLARIES

§ 1. *The theory of exchange and the idea of depreciation.*

The theory of exchange has long seemed—and still seems to many people—to be a mere application of the Quantity Theory. For exchange phenomena hardly engage the attention of economists, and above all of the public, except when the exchange is abnormal, *i.e.*, when the rate is subject to violent fluctuations and falls considerably below par, or official parity.[1] Thus, for instance, the French exchange aroused very little attention before 1914; it arouses attention, and serious attention, at the present time; for the dollar, which is equivalent at metallic par to 5·18, has been quoted at 10, 12, 15, 20 and 25 francs, and more, the value of the franc in relation to the dollar having dropped progressively in the course of its fluctuations.

[1] The expression "par" applies to the normal exchange ratio between two currencies *of the same metal*. This exchange ratio is in no way arbitrary once given the definition of both monetary units: for it is exactly equal to the ratio between the content of each monetary unit in fine metal. Thus the statement that the par of exchange between the franc and sterling is 25·221 francs is equivalent to stating that under the monetary legislation fixing the content of the pound sterling and of the franc in fine gold, there is as much fine gold in one pound sterling as there is in 25·221 francs. Parity, on the other hand, is an exchange ratio between two currencies, which differ in kind, *e.g.*, between the pound sterling or gold sovereign and the silver rupee, or between the United States dollar, which is at present gold or convertible into gold, and the French franc which is at present a paper franc. Parity is arbitrary, but may be fixed by law or international agreement and may, in fact, remain constant, if the convertibility of one currency into another continues to be secured. On the other hand, for a country which no longer possesses a sufficient stock of metal to make its foreign payments on a par basis, by resorting of necessity to shipments of bullion, par is nothing but past history and the conversion of its silver or paper currency into gold is no less arbitrary, if effected at a parity corresponding to the former par, than if it is effected at a new parity.

Economists thus become concerned with exchange phenomena when they find themselves faced by a *depreciated* national monetary unit. It only needs one step further—and a short step—to say that an exchange crisis is due to a depreciation of the currency and to ascribe the latter to excessive quantity; and this explanation is all the more natural because exchange crises do, in fact, often follow exceptional measures such as abnormal issues of paper money, etc. We hasten to add that this explanation, however hasty and superficial, should not, in our view, be entirely discarded. But even if a theory which tends to connect closely fluctuations in the exchange with variations in the circulation may *in the event* be reinforced by a detailed analysis of the facts, it nevertheless originates in an inadequate knowledge of realities and in misconceptions which it is necessary to discard from the beginning. We have already pointed out the error contained in the common statement that a rise in prices "results" from a depreciation of the currency. Prices express an exchange *ratio* between currency and goods. Therefore when the value of money falls in relation to goods, or, in other words, when prices rise, the value of goods increases in relation to money. A rise in the price level and monetary depreciation are synonymous terms; and care should be taken not to confuse a tautological expression for a statement of the relation of cause and effect which should be sought, not as between a rise in prices and depreciation, but as between a rise in prices *or* depreciation and factors, such as, *i.e.*, an excess of currency which may have produced it.

The same remarks also apply to the following case. If an exchange crisis is said to be due to the depreciation of the national monetary unit and if by depreciation is meant the decline in the exchange value of the national monetary unit in relation to some foreign currency, as measured by the loss on exchange, then the same error is made as has been noted above.

It is true that a national monetary unit which has depreciated in relation to foreign currencies may also have depreciated internally in relation to goods and usually

has done so. Thus, for instance, the dollar was quoted at 15 francs at a time when the average price index in France stood at about 300;[1] or an increase of 200% and a corresponding decrease in the purchasing power of the currency.

In this case the notion that an exchange crisis is a consequence of a depreciation may, although it is badly formulated, have some meaning. The loss on exchange must be understood as being due to the *internal* depreciation of the currency, or, in other words, to the decline of its purchasing power within the country, as expressed by the rise in prices. This is a statement which deserves examination.

Finally, this internal depreciation may itself be attributed to an expansion of the currency, and in this case the statement that "the exchange crisis proceeds from the depreciation of the national currency" conveys, though quite incorrectly, a proposition which is in itself worth discussing, *viz.*, that the loss on exchange, or in other words the decrease in exchange value of the national currency in relation to foreign currencies, is due in the last analysis to an abnormal expansion of the national monetary circulation.

But this proposition, once it is clearly and correctly stated, and once it emerges from the ambiguity of an inaccurate expression, may deserve to be discussed, but it only seems evident because it has not been sufficiently analysed.

By a theoretical process the Quantity Theory has been transported into the field of exchanges, just as the theory itself has been constructed by a theoretical application of the law of supply and demand, as the result of observations in a *closed* market; hence there arose a belief that a currency, depreciated on account of its being in excess or of low grade, must necessarily suffer a loss on exchange; and so internal depreciation in relation to internal prices and loss on exchange or depreciation in relation to a foreign currency came to be regarded as one and the same

[1] Taking as a basic index 100 corresponding to prices in 1913 when the dollar stood at about 5 francs.

phenomenon, to which was attributed instinctively and almost automatically the cause which seemed most general and most logical.

Now external depreciation, which the theory of exchanges attempts to explain, and internal depreciation are two phenomena which may be related and may even affect each other; and it will be one of the main objects of the theory of exchanges to show the connection between them. But at the present time they are *essentially distinct* phenomena; for they present themselves and are measured by the observation of different sets of facts—rates of exchange, on the one hand, average fluctuations of internal prices on the other. Moreover, the curves which they describe are distinct and the difference between these curves constitutes, as we shall see later on, the most important factor in constructing the theory of the exchanges and its corollaries.[1]

§ 2. *The theory and mechanism of exchange.*

The crude notions of money, goods and quantity will not suffice to explain exchange phenomena.

In the first place, we must take into account some essential elements in the practical work of exchange brokers, study the conditions of the exchange market, and discover what factors are susceptible in different circumstances of influencing it. *The rate of exchange expresses the value of a national monetary unit such as the franc in relation to a foreign monetary unit such as the pound sterling or the*

[1] M. Rist, in a revue of an earlier work ("Traité élémentaire d'économie politique") has already criticised the author for having stated that internal depreciation and external depreciation are *distinct* phenomena. The above remarks make it unnecessary to reply to this criticism, which could not be admitted as valid without disavowing the very meanings of the terms used and the significance of the ideas expressed therein. Moreover, to avoid confusing these two phenomena with one another is by no means equivalent to denying that they are often connected. It is surprising that the distinction which emerges from the plain observation of facts should be denied by an author who appears to believe in the stabilising effect of fluctuations in exchange rates on the balance of payments, whereas this effect presupposes a substantial difference between internal depreciation and loss on exchange.

dollar; but the process of purchase and sale actually centres round a bill of exchange or draft, drawn on a foreign country and payable in a foreign currency, which is purchased with the national currency. In transactions between two countries *using the same metal which can be freely exported, imported and coined, a settlement could, if necessary, be effected by means of coin which would be recoined, and therefore on the basis of metallic par plus the various expenses of transport and recoinage* (*gold points*). For instance, before the war a Frenchman knew that there was as much fine gold in 25221 francs as in 1000 pounds sterling and that in any case it was open to him to pay 1000 pounds which he owed in London by sending fine metal of the same weight in the form of French coin, if he were prepared to have the specie recoined and pay the freight. Similarly, he knew that he could bring 1000 pounds from England in gold and by having them recoined at the Paris Mint, obtain 25221 francs after deducting the cost of freight and recoinage. *Hence the rate of bills in Paris on London—and conversely—could only fluctuate between these two outside limits which corresponded to the costs of settling in specie.*[1] It could only deviate from metallic par in so far as it might be necessary to add the expenses of exporting (export gold point) or necessary to deduct the expenses of importing (import gold point) the precious metal. The rate of franc bills sold in London for sterling was governed by the same considerations and restricted within the same limits, the import gold point of sterling corresponding to the export gold point of the franc and conversely.[2] In a theoretical inquiry we need not examine

[1] Since also private individuals effected settlements through bills only in order to avoid the expense of shipping metal.

[2] Moreover, the rates corresponding to the quotations of two similar currencies on two markets are always in harmony on account of the arbitration granted by bankers. For if at any given moment sterling is quoted at 25·25 in Paris and at 25·22 in London, there will be persons ready to sell francs, *i.e.*, bills on France in London, in order to obtain sterling at the rate of 25·22 and sell sterling, *i.e.*, bills on London in Paris, at the rate of 25·25. This action by sending up falling and bringing down rising rates constantly keeps the exchange between two markets at the same level.

in greater detail the technique of normal exchanges.[1] But it is necessary to note a few of the essential data which it supplies.

In the first place it will be observed that taking the exchange between two countries each possessing a currency of the same metal which can be freely exported, imported and coined, the rate of exchange does not express, strictly speaking, a variation in the exchange value of the two currencies, *taken in the abstract;* the ratio between the two monetary units is all the time constant and fixed by the metallic par, or, in other words, by the respective weights of fine metal in these two units. It does express the variable rate of one of these currencies, not only transformed into another currency, but also *transported* into another country. When sterling was quoted in Paris before the war at more than 25·221 francs, that is to say, when more than 25·221 francs was given for each pound sterling, the reason was that it was necessary to transport this sum to London; the rate expressed, not the value of the franc, but the value of the gold franc *delivered in London*, where, as was known, one pound sterling could also be procured for 25·221 francs. Conversely, if less than 25·221 francs was given for one pound sterling the reason was that it would otherwise have been necessary to bring a certain number of pounds sterling to Paris, each one of which would, it is true, have represented 25·221 francs, but only after it had been delivered in Paris.

The extreme rates of exchange were therefore governed by the actual cost of shipping specie when necessary. The intermediate rates fluctuated about par within the limits of the gold points and were more or less than par according as the profits of negotiating bills of exchange went to the debtors or creditors of foreign countries; in other words, according as the former or the latter had to have recourse to shipping the precious metals.[2] *Thus as*

[1] Various technical works may be consulted on this subject, in particular "La monnaie, le crédit et le change," by M. Arnaune.

[2] This explains why bank notes occasionally stand at a premium on a foreign market. This was certainly not due, as was sometimes thought by

between countries which have similar currencies made of the same metal which can be freely exported, imported and coined, the rate of exchange is found to express the ratio between the total claims and the total debts which can be immediately enforced by the one against the other, or, in other words, the position of the balance of accounts which is *in this case* the *determining* factor in the rate of exchange.

It should be added that exchange fluctuations, so restricted within the gold points, are in no way connected with the volume of currency in either country unless variations in the volume of currency are held to affect the balance of payments, an assumption which we shall examine later. It is hardly necessary to add that *as between two countries with a silver currency, i.e.*, one of which is a monometallist country on an effective silver standard and the other is also a monometallist silver standard or a bimetallist [1] country, the exchanges are restricted in the same way and by the same factors within the *silver points*,[2] but in the absence of a fixed rate for the conversion of silver into gold, these silver points are variable and fluctuate with the rate of silver *bullion* in terms of gold currency.

Lastly, a country which has a paper currency can have a stable exchange with another country which has a

---

the public, to the fact that the *credit* of the issuing bank was such that its paper was quoted above the metallic currency; but the notes passed by some tourist to a banker were accepted by him as a first class draft on the country where they originated, and if they were passed to him at a time when his market was indebted to that country, it enabled him to save the expense of shipping specie, and therefore justified him in purchasing above par.

[1] In the strict meaning of the term involving the free coinage of silver as well as of gold, this kind of monetary system no longer exists.

[2] This is so in fact; for a country on a silver standard has no gold, or, at least, not enough to make its foreign payments, and in any case its silver is not convertible into gold *at a fixed rate*. Hence shipments of silver sold abroad at the market rate determine the limits of the exchange when it is a debtor. When it is a creditor, countries with a gold currency will manage to purchase silver in the market, and use it if necessary; and so again the rate of silver in terms of gold will determine the limit of the exchange, if the costs of transport be added.

circulation *of the same paper currency* and there will be even greater exchange stability in these circumstances than when there are gold points, because the cost of sending insured notes is much less than the cost of sending gold.[1]

But when a country is so situated, as is normally the case, that, having a paper currency, the circulation is purely internal, its exchanges with other countries, whether their currencies be gold or silver, or, like its own, paper, can of course no longer be restricted within limits corresponding to the costs of importing or exporting specie.

It will therefore be observed that exchange problems do not arise as between countries which have the same kind of currency, whether it be gold, silver or paper. For in these circumstances exchange fluctuations and their effects on economic life are exceedingly small and the study of the exchange hardly goes beyond a technical examination of the operations of bankers and exchange brokers. It may therefore be said that the economic problem of exchange is due to the fact that whereas commercial and financial transactions between the inhabitants of different countries take place the world over, currency has largely remained national in character. Certain countries only possess an internal currency (paper money); the circulation of others is composed of monetary units which are different but are all legally convertible into gold, which, owing to the freedom of coinage, constitutes an international currency apart from the mere formality of recoinage; but even in the latter countries the exchange

[1] In particular, we may quote, as an instance of the complete harmony between the currencies of two countries having the same paper currencies, the case of Madagascar and France, due to the fact that as the former country does not possess a currency of its own, the notes of the Bank of France constitute the entire fiduciary circulation. On the other hand, the exchange between the French franc and the franc in the Antilles is unstable because the same circulation is not common both to the mother country and this group of colonies. The paper francs of Algeria, Tunis and Morocco are in complete harmony with the paper franc of the mother country owing to the possibility of unlimited conversion.

problem arises indirectly because only a part of the circulation is international in character.[1]

We shall return to the logical consequences of this statement, and only note for the moment that those exchange phenomena which are most difficult to explain and which have the most serious effect are those which occur as between countries *not possessing the same kind of currency*, lead to irregular and violent fluctuations, and sometimes end in the unlimited depreciation of one national currency in relation to foreign currencies.

§ 3. *Abnormal exchanges; the essential test is instability—the ultimate cause is inconvertibility of the internal circulation.*

In a country which had previously enjoyed regular exchanges with a group of others, an *exchange crisis* generally shows itself at first in a decrease in the value (or depreciation) of the national currency in relation to foreign currencies, this decline taking place more or less continuously in the course of irregular fluctuations. But it may happen that a stable parity disappears through an appreciation of the national currency. This has happened in certain countries with a silver currency, and especially in British India where, after the exchanges had been perfectly stable for twenty years under the system of the gold exchange standard, at a rate of 16*d.* to the rupee, the latter rose above this rate owing to a rise in the price of silver and a fall in sterling and because it was impossible in practice to prevent the export of rupees, which were now worth more than 16*d.* in silver content. The same process took place during the war in Sweden, as the prohibition to import gold had cut off the Swedish gold currency from others and prevented it from being increased by the minting of foreign gold. But these are exceptional cases and the idea of abnormal exchanges is usually bound up with that of depreciation. It should be remembered, however, that the

[1] In France, even before the war, paper and silver made up about half the total volume of currency and the proportion was considerably higher in many other countries.

essential test of the exchange phenomena which we are about to examine lies not so much in depreciation (which at first and in the course of successive fluctuations always involves some recoveries) as in instability.

If, then, the essential characteristic of an exchange crisis is instability, let us inquire, in the first place, how the crisis begins. The above remarks show that the beginning is a radical transformation of the exchange market. For so long as the country in question and a group of others continue to have a currency of the same kind which can be transported, the only reason for the profits on negotiating bills of exchange is to avoid the difficulties and expenses of transporting this currency; and the price paid by those who derive advantage from the transaction cannot exceed the amount of costs of transport. This being so, the exchange market is one in which supply and demand have free play, but only in so far as it is profitable to negotiate the bills on it, *i.e.*, in so far as it is not possible to use another method of settlement. *As soon as this other method disappears, the limiting condition also disappears;* this is what happens in countries with a gold currency when it becomes impossible to export gold either as a result of legal prohibitions or other circumstances; and as the prohibition is usually directed, not against the import, but against the export, of the precious metal, *it is the export gold point which alone disappears* and with it all obstacles to negotiating at a higher rate; thereafter the exchange will fluctuate and move towards a decline in value, or depreciation of the national currency in relation to currencies which have kept their gold points.

The disappearance of the export gold point is thus seen to be the beginning of a fall in the exchange beyond normal limits, i.e., *an exchange loss or external depreciation of the currency*; and as this disappearance of the export gold point is *usually* the immediate result of granting *forced currency* and therefore of making paper *inconvertible* and *prohibiting the export of gold*, the *immediate and as it were physical cause of exchange crises in such circumstances which are very common, is to be found in this inconvertibility and in the prohibition to export gold.*

It is possible, however, that the loss on exchange does not appear at once, if the balance of payments is positive. For the absence of exportable gold does not make itself felt and the available drafts on foreign countries will amply suffice to meet external payments. Thus, particularly in 1914, the repatriation of capital enabled France for some time to keep the exchange in her favour in spite of forced currency and the impossibility of exporting gold. But this state of affairs could not continue for long. Even a country with a positive *annual* balance of payments will suffer an exchange crisis if its currency cannot be exported, since periods will always occur when the balance of payments is negative ; then the exchange will break and its fluctuations will have no limits in the absence of any means of procuring exportable currency at a fixed rate.

The question ought, however, to be put whether behind this direct cause of a fall in the exchange there does not exist a more remote cause among the circumstances which brought about the disappearance of the exportable currency and thereby of the export gold point. Now this disappearance has generally accompanied abnormal issues of fiduciary currency. Is it therefore right to conclude that in the last analysis the exchange crisis is connected with the excess of currency and so amenable to an explanation based on "quantity" which would fit in so well with the vague and confused notion of monetary depreciation to which we have already directed the reader's attention ?

In the opinion of certain economists this view is connected with the idea of internal depreciation due to inflation *preceding* the loss on exchange. An internal currency which has lost purchasing power will only be in demand in foreign countries if it suffers in relation to par or to the previous parity a loss which makes up for the decrease in its internal purchasing power. Therefore in the opinion of these writers, if the franc only retained one-quarter of its purchasing power, Americans will not buy francs for the purpose of making purchases in France at more than one-quarter of its previous value unless the dollar has also lost purchasing power. In any case, they will wish to obtain in exchange for their dollars a sufficient quantity of francs to

enable them to purchase in France the same amount of goods as those dollars would purchase in America. We shall consider at a later stage whether it is possible to hold that an exchange market works in this way. But in any case it may be admitted that if the actual exchange rate does not correspond to the "purchasing power parity," exports will continue to decline until the exchange is adjusted to prices, and this decline would normally contribute to the fall in the exchange. Other writers merely see in an abnormal issue of a fiduciary currency an artificial increase in purchasing power which stimulates purchases including the purchase of imported goods or sends up the prices paid for them; a process which at all events ends by unsettling the international exchanges and therefore gives rise to a flight of precious metal or brings about a prohibition to export it and so the disappearance of the export gold or silver point.

Others think that an excessive issue of fiduciary currency creates increasing difficulty in obtaining coin which decreases in proportion to paper and may be entirely driven underground; so that here again we find an abnormal agio in favour of coin and the disappearance of the export gold or silver point.

Finally, those who consider that money is essentially a form of goods and that fiduciary money only has value in so far as it is "secured" by metal believe that inflation means diminishing the security in proportion to the notes in circulation and that this decrease ends by reducing the "intrinsic value" of the fiduciary monetary unit which has been issued and by considerably damaging the value assigned to the currency on the exchange market.

It is true that history furnishes examples of circumstances in which the internal depreciation of a currency, chiefly due to an abnormal expansion of the circulation, appears to be the dominating factor and the external depreciation or loss on exchange as a mere corollary; the most important is the depreciation of assignats in France at the time of the Revolution. Even during this period it would not perhaps be entirely correct to attribute

the loss on exchange to the internal depreciation as it exists in our day and as measured by purchasing power over goods and services. The decline in the purchasing power of assignats was less than the premium of specie with regard to them. But this *premium also appears not only in foreign exchange transactions but also in certain internal transactions*—for many contracts were still fixed in specie; internal depreciation could therefore not be as clearly distinguished from external depreciation at that time as at present. On the other hand, the premium on metal was closely connected with the increase of the paper currency [1] and coin, *viz.*, the exportable currency which it was more and more expensive to acquire had not entirely disappeared and was still available for use. It therefore seems as though in the case of the assignats the loss on exchange and the internal depreciation proceeded from some cause common to both, *i.e.*, the expansion of paper currency.

But most modern examples show that an exchange crisis does not proceed from the increasing difficulty in procuring coin, due to inflation, but to a fundamental alteration in the conditions of the exchange market, due to the complete impossibility of obtaining exportable currency caused by the introduction of forced currency and the prohibition to export gold. And so whether this disappearance is merely accompanied by abnormal issues or more or less prepared and caused by them, it is now established (1) that the mere disappearance of the gold point is likely, even without inflation, to bring about an exchange crisis and (2) that inflation will not by itself bring about an exchange crisis so long as the gold point remains.

In general, therefore, we need only remember, in order to see the origin of an exchange crisis, that it arises with the impossibility of obtaining without loss an exportable currency, *i.e.*,—in practice and in most cases at the present time—with the inconvertibility of notes which prevents the specie holdings of the bank of issue from being used and with an export prohibition which even prevents coin from being taken out of circulation for export.

[1] See p. 105 above.

§ 4. *Fluctuations in abnormal exchanges—limited influence of the balance of payments—influence of speculators and of their forecasts.*

As those exchange phenomena which chiefly concern economists are connected with abnormal exchanges and have as their characteristic the instability of the rate, it is important to seek the causes of fluctuations.

Among the possible causes, there is one which will immediately occur to the reader, *viz.*, the position of the balance of payments; for the rate of exchange registers the rate of bills drawn on foreign countries.[1] These drafts represent debts which are immediately recoverable from foreign countries,[2] and so the aggregate of the drafts offered corresponds to the aggregate of such debts. And as these drafts are bought by persons owing money abroad, the total demand depends upon the total amount of the debts which is recoverable from abroad at any given moment. Hence the ratio between the total amount owed *to* foreign countries and the total amount owed *by* foreign countries and recoverable at any given moment will determine supply and demand on the exchange market at that moment; and this is admitted to be the determining factor, so long as the exchange fluctuates within the gold points.

This factor will not, of course, cease to have an important influence when the exchange fluctuates outside the gold points; this becomes clear from the mere perusal of the weekly review in the financial Press, in which the editors follow day by day the events which are likely to

[1] A Frenchman, in order to pay a debt in England, instead of buying a draft on London may wait for his English creditor to draw a bill on him and negotiate it. In these circumstances his debt will not immediately appear on the Paris market; but an equivalent English credit will appear on the London market; this amounts to the same thing, as the two markets are in complete harmony and their rates are always being brought to the same level by continuous arbitration.

[2] Even if the drafts which are negotiated are only payable after a certain interval, they can nevertheless be discounted and are therefore a means of immediate payment.

influence the exchange market. But although the state of international indebtedness may—in view of the object for which bills are bought and sold on the market—appear to be logically the only factor likely to influence supply and demand, and therefore the rate at which they are negotiated, it is common knowledge that once an exchange is unsettled a number of other factors may affect the rate, such as the economic outlook, and in particular the *supposed* state of the *future* balance of payments, the Budget situation ; and even purely political or social events play a large part, and, as we have seen in studying the post-war exchanges, may gradually acquire a decisive influence.

The effect of such diverse factors is explained, in the first instance, by the influence of speculation. A section of the exchange market usually deals in drafts which fall due on some distant date. Again, countries with a depreciated currency have recourse in the absence of means of payment to credit in order to get over periods in which the bills drawn on foreign countries are not sufficient to cover purchases abroad. And this credit may take different forms, such as bank advances, money owed by foreign countries and left on deposit, instead of being repatriated, and even the purchase by foreign countries of inconvertible bank-notes, which are hoarded in the hope of a rise in the rate, before they are returned to the country of origin in the form of payments.

And so we see that the rate of exchange no longer depends *solely* on the indebtedness arising from *previous* commercial, financial or other transactions, but also on the comparative ease in obtaining credit which, once given, neutralises recoverable debts and, once withdrawn, swells the debit side of the account. Thus credit, and therefore speculation, are likely to have the effect of supporting the exchange and sending it up, if confidence abroad is maintained, or on the contrary of precipitating a crash if there is a panic. Lastly, speculation is the medium through which all those factors, even the most imponderable, which influence dealers in foreign exchanges affect the rate.

We have seen in a previous chapter the important part

played in the present exchange crisis by speculation and also by the purchase of foreign currencies apart from any necessity to make payments abroad and with the sole object of safely storing, in times of panic, money which has been saved. But it may be asked whether it is not possible to discover behind such psychological elements factors which are capable of having an objective effect on the exchange rate.

When speculators try to forecast political events they concentrate more or less on those elements which are likely in the future to affect the balance of payments; *e.g.*, at the present time the payment of reparations or inter-allied debts. But they also take into account many other factors, such as the volume of circulation, the Budget position and the revenue from taxation; and it may be added that these two last-named elements are generally considered by reference to the first. For it is generally feared, with some justification, that a State, the Budget of which does not balance, will be forced to resort unduly to the printing press.[1]

§ 5. *The exchange rate and the Quantity Theory.*

The factor of the Balance of Payments being thus given its due importance—which is considerable—it is the factor of monetary circulation which will next occur to the reader's mind. The question arises whether behind the speculative forecasts which are often wrong but which are often corrected by events themselves, we should not assign a decisive influence in exchange fluctuations to the monetary circulation.

[1] All these factors may therefore influence the exchange through the psychology of speculators; but it must not be forgotten that a psychological influence may be counteracted by other influences of the same kind and must not be confused with concrete factors, and especially the faculty of conversion, which have a *physical* influence on the exchange market. Hence we should not assign an equal importance as factors in the stabilisation of an exchange to Budget equilibrium, the effect of which is indirect and psychological, and to direct intervention on the exchange market to relieve a shortage of media of payment.

This suggestion certainly conforms to the classical doctrines about money, and if we take an instance like that of the assignats we shall indeed see that on the whole[1] the premium on metal, as registered either by the French exchange at Bâle or by internal transactions such as purchases of bullion by the Treasury itself, was, above all, governed by the expansion of the currency.

But when we come to consider closely exchange phenomena of recent date we shall observe that internal depreciation *as revealed nowadays by the movement of prices alone*, and external depreciation as revealed by the loss on exchange, have become entirely distinct phenomena, the curves of which, far from coinciding, are not even parallel, so that fluctuations cannot be attributed necessarily to the same causes. On the other hand, we have seen how the classical doctrines about exchange, being doubtless based on precedents which are not recent, have remained somewhat indefinite, and with the vague idea of depreciation, which includes both a decline in internal purchasing power and a loss on exchange, has admitted, *a priori*, that Quantity may exercise an influence which still needs to be demonstrated and is supposed to make itself felt in widely different circumstances. Indeed it is not enough to have some confused notion that a currency which is considered to have lost its internal value because it has been over-expanded, or to have recovered that value because it has been contracted, has for the same reasons a greater or smaller value externally and will therefore suffer a greater or smaller degree of loss on exchange. We must find out whether this supposed internal depreciation and its fluctuations appear in the movements of prices; if so we must make certain that we have reason to presume and are able to prove that this internal depreciation is connected with the loss on exchange.

[1] As we have shown above, the agio did not always move with the expansion of the currency, there were numerous exceptions; but if we take the main stages in this process of inflation we shall find that the extreme rise in the agio did correspond on the whole to the increase in the amount of notes issued.

Now it has been seen how in the case of India a blind attachment to the Quantity Theory led to wrong conclusions; in the first place the internal fluctuations in purchasing power which, during one period under consideration, were not very considerable, did not correspond to changes in the volume of currency; secondly, the exchange problem was, in this case, largely independent of the problem of variations in the internal purchasing power of the currency, for the fluctuations of the Indian exchange were not unrestricted; it fluctuated within the limits of an unstable silver point which was bound up with the world market of silver.

Again certain writers dominated by a confused idea of depreciation attributable to over-expansion, said to be the cause of loss on exchange, have been led in their study of contemporary phenomena to limit their examples, in trying to prove their point, by comparing the curves of exchange and circulation at periods which are favourable to their thesis, and even to eliminate discrepancies.[1]

[1] For instance, in a thesis on the exchange crisis in Spain (Mitjaville, Bordeaux, 1904) the writer presents a table which shows a remarkable harmony between the movements of the circulation and exchange at the end of the 19th century. But on a closer examination of the table which appears to give a continuous series of concordant figures, it will be seen that three years are missing, *viz.*, the years 1895 and 1899, when an improvement in the exchange coincided with an increase in the circulation, and the year 1897, when the exchange was at least as high as in 1900 in spite of a smaller circulation. On the whole, the concordances which have been noted in this table may be summarised as follows. For several years the fiduciary circulation rose progressively, as in most other countries, and as long as the loss on exchange increased, this increase follows the expansion of the currency. But the concordance ceases with an improvement in the exchange. Moreover from 1903 onwards the Spanish exchange improved *without any contraction of the currency*, contrary to the forecasts of the theorists of the classical school, who considered that the only way of restoring the exchange was to reduce the circulation.

On the parallel curves of inflation and exchange in Brazil, see the author's article, "Les dernières expériences monétaires et la théorie de la dépréciation" (*Rev. Econ. Intern.*, September, 1908). There are discrepancies commonly known to be due to changes in the balance of payments which had been made positive by the grant of foreign loans, and there are similarities which can also be explained by such changes.

At the present time when exchange crises are so numerous, we are far from being able to observe that the curves of exchanges and of circulation are consistently parallel. An exchange will move considerably upwards and downwards while the circulation is constant, and conversely. Lastly, it should be observed that the fact of currency and exchange movements being parallel is not by itself conclusive. In Germany, particularly since 1920, the increase in the volume of currency has lagged behind the fall in the exchange instead of preceding it and really amounts to a modified contraction in view of the level of prices due to the exchange position.

Moreover, it would not be surprising, even if variations in the circulation affected the exchange, that this influence should not show itself by simultaneous variations in the curves of the exchange and circulation, as the latter in any case depends upon other factors such as the balance of payments, which may in its turn be affected by the circulation (but may also fluctuate for many other reasons) and by all the psychological imponderabilia which influence a market exposed to speculation. Therefore in the absence of any means of directly proving and measuring the relation between exchange and circulation, we must confine ourselves to a careful appreciation of the arguments advanced in favour of its possibility.

We come back, therefore, to the arguments enumerated above when, in seeking the initial cause of an exchange crisis, we discussed whether we were right in seeking

"Le papier-monnaie," by Subercaseaux, contains (Ch. III) various instances drawn from the 19th and early 20th centuries which completely invalidate the belief in a constant relation between the exchange rates and the volume of the circulation and incidentally show that in the case of certain countries such as Chili from 1905 to 1908 the coincidence of the two phenomena can be explained by the influence of factors which reacted both on the note issue and on the balance of payments. Finally, it should be observed that even in the time of Ricardo, who did so much to popularise this simple theory, the strict relation of cause and effect between inflation and the rate of exchange was denied by some technical writers (see the "collection des grands économistes," Vol. XIII, "Le haut prix des lingots" and the annexed documents). See also, in spite of his drawing the opposite conclusion, Mr. Cannan, "The Paper Pound of 1797 to 1821."

behind the immediate cause, *viz.*, the disappearance of the export gold point, an ultimate cause in the fiduciary circulation. Now the arguments for stating that the volume of the circulation may give rise to an exchange crisis may be valid when we are looking for factors which affect the rate in the case of an exchange already dislocated, *i.e.*, which may aggravate or mitigate an existing loss on exchange. Apart from the explanation which merely consists in confusing external with internal depreciation, the most crude notion on which the belief in a constant relation between exchange and currency variations can be based is the following. Paper currency only has value in so far as it is *secured* on the metal currency, which is in the nature of a commodity ; and the rate of exchange depends upon the ratio between this security and the note issue. But it has been observed that by a curious *rebound* a paper currency often falls faster than it expands, and that therefore it is more heavily secured the more it loses its value. If the mark circulation is raised from 40–400 milliards while the metal holding remains constant at one milliard of gold marks, this holding at a rate corresponding to 25 gold pfennigs may be adequate cover for 4 milliards of paper marks or one-tenth of the total issue ; the proportion of cover remains the same with a circulation of 400 milliards if the exchange does not fall below a rate corresponding to 2·5 gold pfennigs, but it rises if the exchange falls lower.

Indeed, it is by no means impossible that the amount of the security—a theoretical security so long as the notes are inconvertible—may have some influence on the minds of certain more or less inexperienced speculators. But if the metallic cover be considered as a commodity and more simply as a currency which has some value abroad, it becomes difficult to see how the agio can depend for any considerable length of time upon the ratio between the amount of fiduciary currency and the amount of a metal currency which cannot be put to any use.[1]

Therefore modern economists who are anxious to recon-

[1] Hence it is useless to expect a progressive contraction of the fiduciary circulation to provoke a corresponding improvement in the exchange.

cile their belief that the volume of circulation affects the exchange with a more accurate analysis of the facts usually represent this influence as making itself felt through the balance of payments. An artificial increase of purchasing power by stimulating purchases in general also stimulates the purchase of imported commodities; but, more than this, it sends up internal prices and so diminishes the barrier which the loss on exchange might set up against imports and the profit which exporters derive from the sale of bills. In a country, for instance, where the exchange has already fallen 25% below par, as long as internal prices have not risen to the same extent the difference between the exchange and par will restrict imports and stimulate exports. But if a new issue takes place which provokes a rise in prices, the increase in the cost of production may counterbalance the profits which exporters were making on the exchange and operate in favour of imports, which will ultimately cost less than home products. And so the expansion of the fiduciary currency in altering the internal purchasing power and consequently the ratio between its internal and external purchasing power tends to throw the balance of payments into disequilibrium and therefore to increase the loss on exchange. Currency contraction, on the other hand, tends to re-establish equilibrium in the balance of payments and restore the exchange.

The significance of this explanation is bound up with that of the Quantity Theory. Having regard therefore to the analysis of this theory contained in a previous chapter we shall admit that it may be applicable to cases in which the creation of fresh purchasing power has brought about a corresponding increase in demand which *is out of all proportion to any possible increase in production*, i.e., *of supply*; hence we shall also admit that, on this assumption, inflation and the resulting rise in prices will restrict exports and stimulate imports so that the balance of payments will be thrown into disequilibrium and the loss on exchange increased—*to the extent to which the rate of exchange is influenced by the balance of payments.*

But still having regard to the above discussion of the Quantity Theory, we cannot adopt the view that

changes in the volume of currency, of any size and however small, have a specific influence on the rate of exchange apart from whatever importance speculators may rightly or wrongly attribute to such changes—because it does not seem possible to attribute to them *a priori* or to prove any single or consistent effect on price movements.

Moreover, as regards the power to restore the exchange, said to belong to currency contraction, or, in other words, "deflation," we believe that it is necessary to take an exceedingly cautious view. For if the deflation is small in extent, the effect on prices is very doubtful and could hardly react on the exchange except in so far as it may influence certain naïve speculators. If, on the other hand, deflation is far-reaching, there is a risk that exports will suffer more from the resulting dislocation of credit and production than it will benefit by the fall in prices.

§ 6. *Principles governing fluctuations of abnormal exchanges.*

Having arrived at this stage of our analysis we may summarise the preceding remarks in the form of the following conclusions:

When an exchange ceases to move within the limits set by the power to obtain an exportable currency at a fixed rate without loss (in practice the limits are usually the gold points), it will fluctuate unequally in relation to different countries according to their monetary system and as a result of factors which make themselves felt through the psychology of a speculative market.

Of these factors, variations in the volume of fiduciary currency appear capable of exercising a direct influence in cases like the depreciation of the assignats, in which the agio of paper in relation to metal shows itself both in internal transactions and in exchange operations.

In considering the curves of exchange and currency it should not be forgotten, however, that the rise in prices which is the direct result of the foreign rate of the currency may provoke the expansion of the currency, and may be in certain cases the cause rather than the effect of the latter.

In most recent cases of depreciation the chief *objective* factor in exchange fluctuations appears to have been the ratio between foreign debts and credits, or, in other words, the balance of payments, fluctuations in the volume of currency being capable, when they are very marked, and particularly when they take the form of expansion, of affecting the balance of trade in a manner which must be considered in the light of each particular case.

On the other hand, it seems that these fluctuations should be disregarded when they are not very marked, and when it is uncertain, in cases of deflation, in what sense their objective influence makes itself felt, deflation being always a factor which is likely to have a *subjective* influence in restoring the exchange on account of the whole complex of favourable conditions which it may herald, such as the firm intention to improve the general financial position, the prospect of a return to a convertible currency and on account of the favourable psychological effect these circumstances may have on the exchange market.

It should be observed, however, that while the state of foreign debts and credits is always a factor of first importance in an irregular exchange, *the amount of such credits and debts which can be immediately mobilised itself depends to a great extent* on the whole set of factors which affect speculation; capital belonging to foreign speculators may be lent, left on deposit or withdrawn according to circumstances. Similarly, capital of every kind may be sent abroad; this happens, particularly in cases of panic, when in circumstances of prolonged and increasing depreciation foreign bills are bought solely in order to convert savings in an unstable currency into a stable one.

This process, which creates a quite abnormal demand for foreign drafts, is capable of radically destroying the equilibrium of the balance of payments.

Finally, it is not clear, at this stage, that exchanges which have once moved outside the limits normally set by the possibility of converting the internal currency into exportable currency without loss are thereafter restricted by any limits whatever in their movements.

§ 7. *The search for a limit to the fluctuations of abnormal exchanges; discussion of the theory of Purchasing Power Parity.*

There are, however, certain authors who have attempted to discover the norm which determines the rates of exchange once they have moved outside the gold points, and who, believing that they have discovered that norm, have thought that they have also discovered a force tending towards equilibrium which will automatically restore unstable exchanges and ultimately enable them to be stabilised.

According to this theory, the movement of the exchange once it has passed outside the gold points is governed by the ratio between the respective purchasing powers of the currencies which are to be exchanged ; the ratio should be such that each of these currencies, after being converted into foreign currencies, retains substantially the same purchasing power as it had at home. This view, which has been set forth in various publications by the Swedish economist Cassel, should certainly not be rejected without a further examination. The argument is easily summarised. If, for instance, prices have doubled in England, thus showing that sterling has lost half its purchasing power, and if they have increased fourfold in France, thus showing that the purchasing power of the franc is only one-quarter of what it was before the war, the exchange between sterling and francs ought to stand at about 50 francs as compared with 25 francs in normal times. For in the opinion of this author a Frenchman who pays 50 francs for one pound sterling but who obtains with each pound double the quantity of goods which he could obtain in France for 25 francs can go on buying in England without disadvantage. Conversely, an Englishman who obtains for 25 francs in France half the quantity of goods which he would obtain in England for one pound sterling can nevertheless go on buying in France because he will henceforward obtain 50 instead of 25 francs for each

pound sterling. On the other hand, an Englishman would have difficulty in buying in France at a rate lower than 50 francs; and at a higher rate a Frenchman would find it burdensome to make his purchases in England. And so the purchasing power parity would determine the rate of exchange at which international trade remains feasible on an equal basis for the two parties. Mr. Cassel goes even further; he believes that the rate of exchange cannot move far away from the purchasing power parity because an importer would refuse to buy the currency at a higher rate than that which corresponds to this parity.

Mr. Cassel's theory which at first sight is plausible enough is not based on premises which square with the actual facts. It implies that the purchaser of a foreign commodity can *choose freely* between the foreign and home markets and that he will therefore not be willing to purchase the drafts required for his payments at a price which makes the foreign commodity more expensive than if he had bought it in the home market. But this notion contains a double error.

In the first place, it is better to admit at once that goods are chiefly bought abroad which cannot be obtained at all, or cannot be obtained in sufficient quantities, on the home market. Hence it is not possible to rely on the prices ruling in the home market in order to refuse to purchase the instrument of payment at a rate which would raise the cost price of the commodity bought in a foreign market to too high a level. For instance, when our wheat harvest is insufficient we are forced to suffer the price and the rate of exchange of countries from which we draw our supply, with the result that by this very process the price of wheat is sent up on the French market; we cannot argue that we can procure wheat more cheaply in France since we are compelled to supplement our own harvest.

Again, it is attributing much too great a bargaining power to the purchaser of foreign bills, and much too great an influence over prices, to suppose that he could refuse to purchase bills on a foreign country at a higher rate than purchasing power parity. An importer who has

already made his purchases, and has a certain interval before payment falls due, will frequently cover himself by purchasing the necessary foreign valuta at a rate depending more or less on the quantity ratio between supply and demand rather than on the personal desires and above all the appreciation of those who buy and sell. Moreover, on the assumption, which seems to us the normal one, that commodities are bought abroad which cannot be obtained at home, it is necessary to accept the price of the foreign seller, except that, if there is a choice, it is always possible to choose the most favourable market.

We therefore believe, in conclusion, that Mr. Cassel's theory cannot be admitted in its full force, and that only the following elements of it hold good. Trade between England and France will develop on normal lines if the rate of exchange reflects the parity of the respective purchasing powers of the two currencies. But if, for instance, the rate is lower than this parity—say 60 francs to the pound instead of 50—French purchases in England will tend to be restricted, and this will tend to send up the franc in terms of sterling; in the opposite case, English purchases in France will be reduced. Through such variations in the balance of payments the exchange will more or less tend to settle round about the purchasing power parity, in so far as a dislocated exchange depends on the balance of payments. *And even these propositions must be taken as subject to subsequent observations regarding the effect of exchange fluctuations on internal prices and therefore on the purchasing power parity.*

§ 8. *Hypothesis of an automatic adjustment of the exchanges.*

We are thus brought back to an older theory, which in our view is more consonant with the facts according to which *exchange fluctuations tend to bring about equilibrium in the trade balance, and the restoration of the latter will tend in turn to restore the exchange.* This theory has a different starting-point. It is assumed that, as seems most often

to be the case, the loss on exchange is greater than the decline in the internal purchasing power of a currency, or, in other words, that as a result of the exchange crisis there is a certain disparity in purchasing power in favour of the country with a depreciated currency. Thus the exchange profit obtained by exporters in the purchase of foreign bills is not at first wiped out by a rise in the cost of production; and this additional profit tends to bring the balance of payments into equilibrium. On the other hand, this return to equilibrium cannot fail to promote the restoration of the exchange until such time as its own restoration, by eliminating the premium on exports, allows the exchange to fall back to its normal level.[1]

An attempt has been made to find a confirmation of this theory by comparing the curve of such disparities with that of the trade balance. In the absence of sufficient

[1] Some writers have such confidence in this theory of automatic adjustment that they do not think it possible to explain a continuous exchange depreciation without finding some factor which has prevented this automatic mechanism from coming into play. For instance, M. Rist in his work, "Les Finances de guerre de l'Allemagne," asks how the mark could have continued to fall during the hostilities. "This can only be explained," he says (p. 179), "by some new factor, *viz.*, the internal rise in prices due to inflation." Superficial observers may perhaps content themselves by pointing out that it is not very surprising for the premium on exports resulting from the loss on exchange to be incapable of developing exports in a country which is at war and which is devoting all its productive energy to the manufacture of arms and munitions and is also subjected to a strict blockade.

But this argument is in itself worth examining, and it is an interesting question whether it is true that in peace time and without inflation a balance of payments, and with it the exchange, will be automatically restored. Now Germany after the war offers an example of an exchange falling indefinitely, whereas expansion of the currency at any rate from 1919 onwards lags behind the fall in the exchange, and is so far behind the rise in prices that this apparent inflation really amounts to a modified form of contraction. In the case of Czechoslovakia from August 1919 to the end of 1921, we have also seen a crash in the exchange and a prodigious rise in internal prices in spite of a currency steadily restricted. Moreover, further observations in this chapter will show that while there may be in every fall in the exchange some balancing factor tending to restore it, the influence of this factor could hardly be considered as decisive in normal times.

statistical data and in view of the uncertain intervals in which the supposed reactions show themselves, it does not seem possible to draw scientific conclusions from a detailed comparison of the curves. But certain results, such as the recovery in the foreign trade of France after 1920 following a serious fall in the exchange, are in favour of the reasonable assumption that the exchange has a regulating effect on the balance of payments, and *vice versa*.

And yet this tendency towards equilibrium cannot be considered demonstrable in all circumstances. In the first place the idea that the foreign trade of a country varies solely with prices is crude. The most prosperous country in the world can only give what it has got, and *a premium on the exchange will not allow of an indefinite development of exports if the means of production are inadequate*. On the other hand, *it may happen—and it certainly has happened—that the exporter who derives profit from the premium on exchange, owing to the difference between the external depreciation and the minimum internal depreciation of the currency, will abandon a part of that profit to his foreign purchaser*. It is true that nevertheless exports will be thereby stimulated; but goods will be sold at a lower price in foreign currency—say in gold—than that at which it would have been sold with a normal exchange, *and the value of exports will not increase in proportion to their volume*. But since the balance of payments depends on an increase not in the weight or tonnage but in the value of exports, it is easy to see that on this assumption, which is often in fact realised, the fall in the exchange will not be enough to restore the balance of payments. The automatic machinery contemplated above may very well not come into play.

Lastly, the whole theory has been built up as though the rate of exchange were bound up *solely* with the balance of payments. But as has been pointed out, this statement, while it is approximately true when the exchange is restricted by the gold points, becomes inaccurate when we are dealing with abnormal exchanges. Of course, the

state of balance of payments is an important factor even in the latter, but all kinds of psychological influences also come into play, *and it is therefore quite impossible to argue in such cases as if the balance of payments were the only factor which determines the rate of exchange.*

§ 9. *Purchasing power parity as a function of the rate of exchange.*

But there is more to be said. When Mr. Cassel considers that the rate of exchange is determined by the parity of purchasing powers, he forgets that *this parity is in itself a function of the rate of exchange.* For supposing that the pound stands at 70 francs, whereas according to the purchasing power parity it ought to stand at 50, surely internal prices in France will soon rise, from the mere fact of a rise in the price of imported commodities. Thereupon, as the franc will have a smaller purchasing power even in France, the *purchasing power parity* between France and England *will be altered* and will be consistent with a greater exchange depreciation of the franc.

The influence of the exchange on internal prices certainly varies from one case to another; it depends, no doubt, on the kind of commodities imported, and on the relative importance of foreign trade in the economic life of the country. But the exchange also affects the price of goods which can be exported; for even if, as was pointed out above, exporters are not in a position to obtain the entire profit on foreign sales for themselves, they do attempt to retain a large proportion of it, and the rise in the price of exportable commodities in terms of the home currency, which results from their profit on the exchange, reacts on the internal market. Hence it is certain that the exchange will always affect internal prices, though in varying degrees, and so in itself modify the purchasing power parity which is supposed to have determined the rate.

Lastly, there are other psychological motives which, with an exchange already greatly depreciated, tend to

provoke a rise in prices closely bound up with the exchange movement. In Germany, for instance, when a fall in the mark was threatening, the crowd, which through previous experience was alive to the connection between the two phenomena, rushed to the shops and so helped to provoke the rise which it feared. More than this, when, as a result of progressive depreciation, nobody knows what the currency is going to be worth from one day to another; when trade operations have to be based not on the previous cost of production but on a cost of replacement which is unknown, and contracts are therefore drawn up in terms of gold and foreign currencies, and prices vary with the rate of the dollar, the connection between price movements and the exchange becomes exceedingly close.[1]

And so there is no certain conclusion to be drawn from a fairly general correspondence between the rate of exchange and the respective purchasing powers of a currency on the internal and external markets.[2]

It is true that, for the reasons given above, the exchange may be more or less affected by the purchasing power parity; but by its reaction on internal prices it alters in turn and more certainly the purchasing power parity itself; this may be enough to explain the approximate correspondence. Moreover, it is probable that *to the extent to which this correspondence is not quite complete, or rather in so far as the rise in internal prices falls short of the loss on exchange*, the discrepancies in purchasing power will tend to bring the balance of payments and the exchange itself into equilibrium; *but it is improbable that these discrepancies can have their full effect, since an unfavourable exchange will tend to provoke a rise in internal prices.*[3]

[1] As we have seen above, it even happens in certain circumstances that the internal depreciation finally overtakes the loss on exchange.

[2] A detailed analysis of the relation between price and exchange curves shows that a correspondence between the respective variations of internal prices and rates of exchange in the countries in question is too frequent to allow of a mere coincidence. See on this subject the instructive article by M. Olivier in the "Revue d'économie politique" of July 1922, and Mr. Keynes' article in the first number of the *Manchester Guardian* series, entitled, "The Reconstruction of Europe."

[3] In an article already quoted ("La circulation, le change et les prix,"

In any case, if it is true that the exchange rate and the purchasing power parity influence each other, it hardly seems possible to hold that *irregular rates of exchange can be determined, in the sense of being limited in their fluctuations, by a factor* such as the purchasing power parity *which is itself constantly being altered by the rate of exchange.* It would be a curious limit which shifted with the phenomenon, the movements of which it is supposed to restrict.

Moreover, there are typical instances to show that the purchasing power parity cannot be considered as a factor capable of determining the exchange curve and of bringing an exchange back to equilibrium by restoring the balance of payments; it is enough to consider countries like Germany, where the exchange fell indefinitely.

No doubt it is possible to give the *a priori* explanation that it was the issue of notes which rendered possible the unlimited depreciation of the German exchange by altering the purchasing power parity. But it is well known that from the time when price and exchange movements became closely bound up with each other in Germany (in the second half of 1921), the new issues of notes on a large scale took place *after* the rise in prices which made it imperative to increase the media of payment; the rate at which the currency increased was so far behind the rate at which prices rose that this increase cannot be considered as anything but an alleviation of the currency contraction arising from the disproportion between the quantity of instruments of payment and the level of prices. And so only the following facts should be remembered. Violent exchange fluctuations which cannot be attributed to a change in the ratio between internal and external prices have occurred generally for reasons in no way connected with the state of the balance of payments nor probably with that of the currency. *These wide exchange fluctuations have not created the corresponding*

Rev. Écon. Int. of February 1924) M. Aftalion has clearly shown the decisive influence of exchange movements on internal prices, and demonstrates from several examples (1) that with stable exchanges internal prices may remain stable in spite of inflation, and (2) that prices rise, even without inflation, when the exchanges depreciate.

disparity which, on a certain theory, ought to re-establish equilibrium by stopping imports and stimulating exports. On the contrary, this disparity has been reduced to a minimum *by an immediate rise in internal prices.* It is therefore perfectly clear that if throughout these wide fluctuations the ratio between internal and external prices remains somewhere in the neighbourhood of purchasing power parity, *this is not due to any virtue in the purchasing power parity whereby it can restrict the exchange fluctuations, but it is because the internal purchasing power has felt the effect of these fluctuations whatever they may be.*

In short, it hardly seems possible to admit Mr. Cassel's argument that the exchange cannot move far from purchasing power parity because bills would not find purchasers at any other rate. A study of monetary phenomena merely seems to confirm the idea, which is at once old and new, that there is a *reciprocal* relation between the rate of exchange and the balance of payments, and that the return of the balance of payments to equilibrium will *more or less* tend to regulate the exchange. It may therefore be admitted that the effect of the disparity between purchasing powers is such as to restore the exchange, more or less, without any previous alteration in the currency; but it must be added that the purchasing power parity itself alters with the exchange. And so in the last analysis there does not appear to be any certain and constant factor which will bring the balance of payments into equilibrium, nor is there any limit to the fluctuations of an exchange which is no longer restricted by the gold points or by an equivalent convertibility.

§ 10. *The necessary conditions for a return to normal exchanges.*

Having studied the circumstances in which an exchange crisis will arise and the conditions in which abnormal exchanges develop, we must now complete this sketch of a theory of exchange by inquiring how a return to a stable exchange can be effected.

Certain modern economists, at the head of whom it is right to place Mr. Cassel, have tried to find the solution of this problem in the theory of the purchasing power parity. Starting with the idea that the exchange should settle at a rate such that the internal purchasing power of the currency in question and its external purchasing power, once it has been transformed into foreign currency, should be approximately equal, they try to find a method of supporting the internal purchasing power of the currency, and naturally discover it in the Quantity Theory. In the views of these authors, the secret of stabilising exchanges consists in regulating the circulation in such a way that a currency will have a given internal purchasing power in order to obtain a parity which will produce the required rate of exchange. Now this theory implies in the first place the adoption of the Quantity Theory in the form which we believe to be untenable,[1] *i.e.* implying a continuous and consistent effect of the volume of currency on prices, *however small the variations in volume may be*. Again, it attributes a virtue to the maintenance of purchasing power parity which the preceding remarks will not allow us to admit. For we have observed that in certain cases—the very ones in which we are promised a favourable result—the exchange rate, far from being restricted by the purchasing power parity, modifies it by sending up internal prices; an event which cannot be forestalled by limiting the circulation,[2] and which doubtless cannot afterwards be counteracted by contraction. In our opinion, nothing is more futile than to attempt to withhold the volume of currency required by a rise in prices, once the latter has occurred as the result of an exchange movement.[3]

The part of this Quantity Theory which, in our opinion, ought to be remembered is in the first place that when the time comes to return to a stable exchange it is impor-

[1] See preceding chapter.

[2] N.B. in particular the case of Czechoslovakia.

[3] In such circumstances private individuals will have recourse to their capital in order to meet the lack of currency, and an increase in various clearing operations will be used in order to meet the shortage.

tant to leave the volume of currency at a point which corresponds to the level of prices which has been reached, and avoid new issues of currency which might indirectly compromise stabilisation.

With regard to the purchasing power parity, we believe that it should also be *taken into consideration*, not as a means of stabilisation, but *as a circumstance favourable to stabilisation*. For supposing that in attempting to stabilise the sterling-franc exchange when francs are 80 to the pound, a rate of 50 is adopted for the new parity, there would be a difference in the purchasing powers of the two currencies highly detrimental to French exports, as the franc value of bills drawn in sterling would fall heavily without any hope of an immediate and corresponding fall in the cost of production. Moreover, it will be observed that whenever the policy of a return to stable exchanges has been inaugurated after a heavy depreciation, a new exchange parity has been set up taking into account the purchasing power parity.

Subject to these preliminary remarks, the theory of a return to stable exchanges appears to follow from the elements of exchange mechanism and is already confirmed by a number of well-established precedents in recent monetary history.

We have indeed observed that the exchange problem, as it presents itself to the minds of economists, arises when a country can no longer use for its international requirements a currency which can be exported and imported without loss—such as gold which has a constant exchange value in passing from one country to another owing to the system of free coinage and the constant definition of the chief monetary units. On the other hand, as gold only forms part of the circulation *in modern countries*, the first condition for stabilising the exchanges is the freedom to convert the other elements in the circulation—notes or silver—into gold coin; and the second condition is the power freely to *export* and import this gold. *A return to convertibility and to the free export and import of gold constitutes in the present state of monetary technique the only*

method of restoring the gold points and therefore of re-instituting a system of stable exchanges with countries on a gold currency.[1]

When inflation has not gone very far, so that new issues can be easily withdrawn, and the level of prices has not risen too high while the loss on exchange remains low, a return to the gold points can be brought about by abolishing forced currency so that the unlimited convertibility of notes is restored. This method has been used particularly in France after 1870 and may be ultimately adopted in England.

It should be added that it is inapplicable except when all the conditions described above are present, or unless the definition of the monetary unit is changed; and even then it cannot be used without running serious risks.

The first consequence of merely abolishing forced currency would be to force the bank of issue to exchange them at the rate of one gold unit for one paper unit, thus involving possibly a temporary but certainly a violent return to a par exchange. If the forced currency were in fact abrogated at the present time in France it would at once be open to anyone to obtain gold at the rate of one gold franc for one paper franc, and so the exchange would revert to 25·221 to the pound and 5·18 to the dollar. It would be superfluous to recall what has already been said on this subject and to describe the catastrophe which would follow.

There would be only two methods of avoiding such an upheaval. The first one would be to wait for a *gradual* improvement in the exchange until it nearly reached par;

[1] As we have seen particularly from the relation between the Moroccan and Algerian franc and the French franc, it is possible to establish harmonious exchanges between different countries by making one paper currency convertible into another. But a general monetary restoration presupposes that harmony has been restored with the few countries—like the United States—where the internal currency is on a par with gold owing to the freedom to export, import and coin the yellow metal. Hence the formula "convertibility into gold" is more generally and more easily accepted than the one which aims at making the various paper currencies convertible into United States dollars. But the method of convertibility into gold should also be understood as extending to the system of buying and selling at a constant rate bills payable abroad in gold.

this would be a highly problematical process, as a dislocated exchange, subject as it is to all the imponderable reactions of speculation, will seldom recover with a steady upward movement. Or else it would be possible to set about *devalorising* the national monetary unit before abolishing forced currency. Thus, for instance, once the franc was defined as having one-third of the content of fine metal which it has at present, it would have a new and much lower parity which would enable notes to be converted at the rate of one gold franc to each paper franc, and the return to parity would not create too violent a disturbance in the purchasing power parity. But it is unnecessary to emphasise the seriousness of such a decision.

Moreover, the mere suppression of forced currency, even if it is preceded by a change in the definition of the currency, would still have the effect of making notes convertible for all comers and for any purpose, and of putting back into circulation as ordinary currency gold coin which can continue without serious disadvantages to be replaced by notes in internal circulation. Now quite apart from the risk of hoarding which is to be feared after a period of disturbance when public confidence has been seriously shaken, the result of this measure is considerably to reduce the metal reserve of the Bank, using for the quite subsidiary purpose of an internal instrument of exchange that part of the national volume of currency which ought always to be available to settle any debt balance payable abroad.

A number of precedents connected with the return to a stable exchange based on gold (gold exchange standard) which have occurred since the end of the 19th century point the way to another method which is in fact much simpler and more logical. With an internal silver or paper currency, but one which is convertible at a fixed rate for payments abroad, it is possible to give to a given volume of gold its maximum effectiveness, since it is entirely set aside for payments abroad. *On the other hand, in fixing the rate of conversion the purchasing power parity ruling at the time when the system is adopted can be taken into account; for*

it is possible to raise by successive stages carefully spaced out the value of the internal currency in relation to the external currency, the mechanism of conversion being quite independent of the particular rate adopted. And the prospect of such later recovery makes it possible to avoid, whenever it is thought that the right moment has come, the devalorisation which would result from a change in the definition of the monetary unit, without affecting the main principle of stabilisation. For stabilisation does not so much imply a fixed and unvarying rate of conversion as a system of stable exchanges restricted over a given period to the normal limits set by the possibility of regular conversion, and thus removed from the vicissitudes of speculation.

This method evidently amounts to adopting the system of the gold exchange standard or of the gold reserve; and it has hardly anything against it except the ignorance in European countries of the exact way in which it works, although fundamentally it is identical with our traditional system of the gold standard.[1]

[1] In the second chapter of Part III, p. 209 *et seq.*, will be found an exact demonstration of the fundamental identity between the gold exchange standard and the former gold standard.

CHAPTER IV

THE NOTION OF MONEY AND THE NOTION OF A MONETARY STANDARD

§ 1. *The notion of money and the notion of commodities—money of account and real money.*

In the view of the classical economists money is *essentially* a commodity, and even "*a commodity like any other*," as John Stuart Mill said. Doubtless this should be understood to mean that its economic characteristics are derived from its quality as a commodity, that its value will be determined like that of any other commodity and finally that monetary phenomena, which are commonly connected with the value of currency, can be explained by reference to the same laws which govern the exchange value of any commodity in a normal market. This idea doubtless has some foundation in history; for man does not appear ever to have "invented" money. Objects of common use such as domestic animals (*e.g.*, sheep), foodstuffs or other objects capable of preservation, *e.g.*, salted fish, furs, balls of lead, and, more commonly, precious metals, have been accepted in barter, *with a view to further exchange*, even when the recipient did not actually require them for his own use. Such commodities have thus become ordinary media of transactions or in other words instruments of exchange; and, as little by little the exchange of a given commodity for a currency commodity took the place of the direct exchange of two commodities, required for immediate use, or in other words barter, the habit was formed of assigning to every commodity a value in terms of the currency commodity, which thus became the common standard of values. As the currency commodity came to be chosen more

and more among durable objects—easy to preserve and easy to transport, it also served as an instrument for saving the proceeds of previous transactions and thus came to be used more or less successfully as a standard of values, not only at any given moment but over certain periods (standard of deferred payments). Fiduciary currency or token money, although in certain countries [1] it has been known since ancient times, does not seem to have been created deliberately; it made its first appearance as token of a previous currency commodity. Even nowadays a bank-note is considered, at least by lawyers and theoretical writers, as a mere promise to pay in coin and is deemed to derive its exchange value from the metal currency which it represents.

It should be observed, however, that the idea of money is distinct from that of a commodity in that, as money is accepted solely with a view to subsequent exchange, it need not necessarily answer a given need or a given series of needs. In this respect the conception of money is opposed to the usual conception of commodities and merely from this it may be inferred that an instrument of exchange need not always be a commodity.

Finally, it should be added that with a system of coinage a new element arises. Although each coin corresponds to a given weight of fine metal, it became customary to give certain coins a name, *e.g.*, drachme, pound sterling, franc, etc., and to denominate other coins in terms of multiples or sub-multiples of this *unit of account.* Commodities are valued in these units of account even when they are not actually being exchanged. On the other hand, units of account may be applied by legislative enactments to currencies of different metals or to token money or fiduciary currency such as notes. They even

[1] According to M. Revillout ("Les Obligations en droit égyptien comparé") there were banks and bank-notes in Babylon six centuries before the time of Jesus Christ. Again it is said that paper money existed in China from the 11th to the 15th centuries of our era. Modern paper money originated in bank-notes which themselves appear to have arisen from the receipts for coin and gold and silver deposits given since the 12th century by banks in Italy.

enable transactions to be carried out without any movement of bullion by a mere process of accounting. Thus it is easy to lose sight of the fact that this unit of account is often synonymous with a given weight of a certain metal,[1] so that the commodities which are to be exchanged are no longer compared mentally with this given quantity of metal, but with the unit of account itself, behind which there is seen dimly a whole series of commodities of a value which is equivalent or lower or higher. A teacher who is paid 20 francs for a lesson sees that the lesson represents two or three meals or a hat or a whole set of objects which may be obtained for 20 francs, or for some multiple or sub-multiple of this sum. A small shopkeeper who has made a profit of 50 francs in the course of his day's work sees in it the possibility of feeding his family for some days on this sum, or of paying a certain part of his rent, etc.[2]

[1] It should be remembered, however, that before the French Revolution a money of account like the livre was different from real currencies such as the écu or the louis, and that these real currencies corresponded to varying numbers of units of account according to whatever scale was in force at the moment.

[2] M. Bourguin in his study "La mesure de la valeur et la monnaie," *Revue d'économie politique*, 1895, pp. 408 *et seq.*, while he recognises that owing to the diversity of commodities the abstract idea of money as a measure of values ends by becoming detached from the objects into which the instrument of exchange (gold, paper, silver, etc.) is transformed, believes that it is possible to put into circulation a currency of which the unit does not correspond to a given quantity of a given commodity, and concludes that "it is essential that the conception of a unit of measure should be related to some concrete object."

This remark seems to us to be true only as a matter of history. But once the monetary unit which was originally connected with a given commodity is in circulation, the person who receives or gives it does not find it any easier to grasp the exchange value of a piece of precious metal than that of an abstract unit of account. Therefore when we come to study value we are forced to distinguish between value in barter where each commodity has its own utility, and value in exchange for money where we only have to take into consideration the utility of the commodity as estimated by the purchaser. Indeed a person who gives or receives money does not appear capable of realising the value of this amount of commodities, even by referring to the commodity in which the money was originally incorporated, whereas he can appreciate the sum of money which he gives or receives as constituting a given proportion of income or capital.

Finally, the important point for the recipient of a certain sum of money, or in other words of a certain number of units of account, is not that he is entitled to a certain quantity of precious metal for which he would have no direct use; what does matter to him is the assurance that in the event he will obtain in exchange for the number of units of account which stand to his credit that quantity of commodities to which he is entitled by that sum of money considered in the abstract.

Thus in proportion as the notion of money develops it becomes gradually more and more detached from that of a given quantity of a given commodity and becomes a notion of a unit of account with a given purchasing power. Not until a doubt arises as to the permanence of this purchasing power does the idea of a currency commodity reappear. We do not believe that it is psychologically correct to say that before the war the public accepted bank-notes because it knew that they were convertible into coin. Only persons with technical knowledge and bankers cared about this; the man in the street only needed to be convinced that when he parted with his note it would bring him, not a certain amount of gold, but that quantity of goods which he knew he could obtain in exchange. A preference for gold only made itself felt owing to doubts as to the stability of the purchasing power of paper and not really because gold is a commodity, but, more exactly, because it is a universal currency which is everywhere accepted, produced in limited quantities and therefore certain to maintain its function as an instrument of exchange with a comparatively stable purchasing power. It is doubtless true that its quality as a commodity, *i.e.*, as a material object capable of other uses and therefore able to retain an exchange value independent of its monetary uses, may greatly strengthen a currency. In the first place, through being commonly used by a large number of countries, it may more easily become an *international* currency. Further it cannot be produced *arbitrarily and in unlimited quantities*. But, in our view, the idea of a commodity is not necessarily inherent in that of money and we believe that money is more accurately defined as

"an *object* which is received in exchange for goods or services with a view to subsequent exchange."

On the other hand, we hold that if money is not essentially a commodity this does not prevent the quantity theory from being applicable to it, *subject to the remarks made in the preceding chapter.* A monetary instrument, whether it be actual coin or a mere token, may be more or less abundant. Its abundance, by according additional purchasing media, may provoke a rise in prices or in other words depreciate its exchange value in relation to the goods or services demanded.

But monetary phenomena cannot be explained solely by variations in value similar to the variations in the value of any commodity on any market. On the contrary, we believe it can be shown by an analysis of the facts described in the first part of this book that the value of precious metals under a system of free coinage, *i.e.*, convertible in unlimited quantities into a given number of units of account, is determined under very special conditions and we believe that this analysis will help us to define more accurately the exact meaning of a monetary standard.

§ 2. *The value of money.*

We have already shown (Part I, Ch. II) that, contrary to the expectations of the legislators of the Year XI and to the views still commonly accepted, the experience of bimetallists in the 19th century showed that it was possible to maintain a stable exchange ratio between two monetary metals which were both accepted for free coinage and which were meant to be treated like any other commodity. And the explanation of this phenomenon is quite simple. For, owing to the freedom of coining both metals, which enabled each of them to be converted *ad libitum* into coin, the institution of a legal ratio between gold and silver currencies resulted in a constant exchange ratio between the metals even without their being actually coined. The stable exchange ratio between the two metals in bimetallist countries *was the direct result of the fact that any individual could transform either at will into currencies*

whose exchange ratio was strictly defined by law and guaranteed by the inscription on the coins themselves. The indirect result in monometallist countries was that individuals could have metal coined externally which was not admitted to free coinage in their own country and in exchange take out of the circulation of neighbouring countries the metal which could be transformed into legal currency in their own country—*to the extent at least to which this circulation was sufficient to meet the demand.*

It must, however, be recognised that the working of the bimetallist system *which cannot be explained on the supposition that precious metals, freely coined, have independent exchange values determined like those of any other two commodities* can only be understood if it be recognised that the *system of free coinage* as applied to two metals both of which are convertible into monetary units at a constant rate has created for these two metals *a very special market so that they are exempt from the laws which govern exchange value in ordinary markets.*

But in order to grasp the fundamental importance of this piece of monetary experience it is not enough merely to lay down the possibility of maintaining an approximately stable exchange ratio between gold and silver. For, in making this observation, writers generally confine themselves to admitting that the possibility of converting one metal into the other establishes a connection between the rates of the two metals, but continue to state that the rate of one of the metals is determined "naturally" and independently of any legal prescription. We must still inquire whether this experience has not shown, contrary to opinions based on a rather superficial observation of previous currencies and adopted by the authors of bimetallist legislation, that the law may have a decisive influence, not only on the ratio of value between the two precious metals, but also in determining the value of any monetary metal. Although contemporary thinkers, chiefly in Germany and in France,[1] are inclined to

[1] See Gide, "Principles d'Économie Politique," 11th edition, p. 261. "We now have numerous proofs of the influence exercised by legislation

recognise the part played by the State in determining the value of the precious metals, the ideas which we have assigned to the legislators of the Year XI—that money is essentially a commodity and that public authorities cannot affect its rate—are still classical. Moreover, they have certain apparent advantages on their side. Thus, for instance, gold, which since 1873 has alone enjoyed the advantage of being almost universally admitted to free coinage, can move between one country and another, whatever stamp it may bear, without losing any of its value apart from the expenses of transport, insurance, etc. The stamp affixed by the State does not appear to play any considerable part in determining its value, as it preserves this stamp in foreign countries to which it is only admitted as bullion; hence it appears to be the "commercial" value of the bullion which is at the basis of the legal value of a coin.

Moreover, it will be remembered that in instituting a system of free coinage under which the mints never compelled the metal to be handed over but were always ready to receive it in unlimited quantities and give it back in full in the form of coins, legislators had believed themselves to be reducing to a minimum and practically eliminating their own intervention. It would indeed be a paradox if on the one occasion on which the public authorities had ceased to attempt regulating the rate of precious metals they had actually succeeded in doing so.

Nevertheless, however plausible the theory may be that the value of a currency cannot be determined except like that of any ordinary commodity and independently of any State intervention, it must be admitted that this doctrine rests chiefly on the experience of a system which differs widely from that which is now in force and that the lessons of this experience may have been superficially learnt. Before the Revolution, the State, having bought

on the rate of precious metals, for instance the stabilisation of the ratio between the value of two metals which continued for three-quarters of a century by French law, etc." See also Cauwès, "Cours d'Économie Politique," Vol. I, in particular, p. 501, § 546 of the second edition, and Bourguin, "La mesure de la valeur et la monnaie, p. 192 *et seq.*

gold and silver at a rate varying, not only from one country to another, but subject to constant variation[1] in a single country, then proceeded to apply to the currencies which it issued an arbitrary scale which was frequently changed. For instance, a gold louis, of which the content in fine metal might have been bought for 18 or 19 livres, was successively scaled at 20 to 24 livres. As the purchasing price and the scaling *varied from one country to another and from one time to another* both for gold and silver, the holders of gold or silver bullion often refused to bring it to the Royal Mint for export abroad and sometimes even found it profitable to melt down gold and silver coins for transmission to foreign mints. The purchase price and scales were constantly stultified by what was called the "commercial" value of the metals. Monetary policy before the Revolution was a perpetual struggle to obtain one or other of these evasive metals, which, owing to the constant and contradictory changes, both in the scaling and in the rates, avoided the Royal Mints or passed through them only to be again melted down and exported. It is therefore not surprising that after many centuries of this kind of experience, the public authorities, who had always come off worst, admitted that they were beaten and gave up attempting to fix the purchasing price and the arbitrary scales and confined themselves to accepting the metals and restoring them after coinage. But it should be pointed out that the so-called commercial rate over which the public authorities had no hold was *mainly if not essentially the result of variations in the purchasing prices given by the different mints*. It reflected the advantages which might exist at any given moment in bringing one or other metal to this or that mint in preference to others. For the frequent and wide variations in the ratio of gold to silver due to their respective purchasing prices by the different mints and even differences between the purchasing price and the scale of a single metal as between one country and another gave rise to profitable arbitration. But since the 19th century civilised states, in which a given

[1] Even several times in a few months.

weight of fine metal had received a definite denomination which was often traditional, have adopted the principle of *maintaining a single scale. Thus, with a system of free coinage, the purchase price of metal was repaid by the sum of money of account of the number of coins contained in the bullion*, save that in certain countries a very small sum which was known in advance was deducted to cover the expenses of minting. Lastly, the legal French ratio of 1—15½ between gold and silver was very widely adopted.[1] It is true that the free coinage of both metals has given rise to alternating leakages of gold and silver in bimetallist countries owing to action taken in monometallist countries. But we have seen that the difference between the "commercial" value of the two metals and their legal ratio has been small and is due to the various costs arising from the transformation of bullion into coin and *vice versa*.[2] Circumstances have changed; this can and should justify a corresponding change in our ideas. The point is whether, in adopting the system of free coinage, legislators who believed that they were keeping in the background did not in fact influence the value of the metal or metals which they included in this system.

It will be easily recognised that this system, by making the metal convertible into coin *ad libitum*, whereas in

[1] At least approximately similar rates have been adopted except in the United States where in 1834 a change was made from the ratio 1–15 to 1–16.

[2] In his interesting and profound studies of monetary problems ("Éléments d'Économie politique, La circulation"), M. Houques-Fourcade, Professor at the University of Toulouse, after having described the numerous measures taken in Europe and in the United States during the 19th century to keep the monetary systems working, comes to the conclusion that the bimetallist system is unstable (p. 249). We admit that we cannot agree with this conclusion: first, because the author in describing the relative difficulties in the use of silver goes far beyond the time at which bimetallism came to an end and thus attributes to this system difficulties which in fact arose from its disappearance; secondly, because the difficulties of the period of bimetallism are in no way due to the impossibility of maintaining a stable exchange ratio between two metals, both being equally protected from the influence of supply and demand (as they have the advantages of an unlimited market and a fixed rate), but merely from the unhappy position of bimetallist countries which are caught between gold-standard and silver-standard countries.

practice it could always be turned back into bullion by melting, makes the value of coined and non-coined metal almost identical; but it is commonly stated that it is the "natural rate," the "intrinsic value" of the metal, which is at the basis of the value common to the bullion and to coin. Moreover, it is commonly considered that the commercial rate of a monetary metal is determined like that of any other commodity and that the value of the coin minted from that metal is nothing but a reflection of it; at most, it may be recognised that the use of a metal for currency purposes increases the market and the demand for it.[1] Finally, the fact which we have indicated above, that exported coins keep approximately the same value in foreign countries where they are only accepted as bullion, appears to confirm this view.

Moreover, it does not seem that by a physical process so insignificant as the transformation of one lump into smaller lumps in the form of discs merely stamped with the weight and fineness, the State could have any effect whatever on the value of the metal. Certainly this was not the intention; and we shall see that this operation has in fact had no fundamental effect. Nevertheless, *with the system of free coinage the weight of fine metal received in the form of coin*, which is equal[2] to that of the fine metal contained in the bullion and is therefore constant and known in advance, *does really constitute a given sum of money*. Hence it is easy to assert that with a system of free coinage the State purchases the metal at a fixed price. This seems all the more obvious as in practice, instead of giving back the same metal which has been brought to the mint in the form of coin, anyone, who brings gold in this way, is immediately paid for it in legal currency. It is still more curious that the producer of gold will not

[1] In rather a different form, Walras observed that the use of the precious metals for currency correspondingly diminished the volume available for industrial purposes and increased the utility of the commodity money. This is an ingenious observation, but it does not adequately summarise the theory of the value of money.

[2] Always subject to a slight fixed deduction in some countries for costs of minting.

hesitate to support this idea; a producer of gold may be aware that he enjoys a privilege which is now unique,[1] namely, of selling his produce at a fixed price; for having estimated his cost of production in money he receives a fixed sum in money for his bullion, either in the form of coin struck from it or in the form of any legal tender currency.

So when either by custom or by law a metal can be transformed at will into money and virtually exist as money either in virtue of the system of free coinage or because it is accepted by weight,[2] the State, although it apparently withholds any interference, creates a very special position for this metal which decisively influences its exchange value; for instead of being subject to the action of supply and demand as on an ordinary market, *it enjoys the advantage of a quite special market where it will be accepted in unlimited quantities in return for a constant number of monetary units.*[3]

The significance of this last observation has been contested by certain economists as being more apparent than real. As the value of a currency can only be ascertained by taking its average exchange rate in relation to all commodities, it matters little in their view whether an amount of bullion of a certain weight can always be exchanged for the same number of pounds sterling, dollars or francs;

[1] This privilege is not nowadays without disadvantages as will be seen later, see p. 173.

[2] It should be remembered that the system of weighing money is still used in China.

[3] The general suppression of the free coinage of silver in countries which were formerly bimetallist reinforces our theory; for we have seen that the rate of silver, once it is no longer tied up with the rate of the currency, fluctuates like any other commodity, Governments themselves buying it thereafter through the ordinary process of bargaining—and that it may fall so far as its cost of production allows. The rate of gold, on the other hand, which is still used for currency, may continue to fluctuate, in relation to the mass of goods for which it is exchanged, but these fluctuations will be independent of its cost of production.

It should be added that the industrial consumption of precious metals, although it is considerable, cannot *directly* influence the value of a metal which is accepted for free coinage, since it is always open to the seller to have it minted and the purchaser can in fact melt down coin in order to obtain the metal he requires.

for it is the value of the coined metal and of the monetary unit itself which varies. But this objection is not valid. For the purchasing power of a given sum of money does not vary any more for the producer of gold than for any other producer who receives it in exchange for what he sells; and if the former is exposed, like anyone else, to fluctuations in the purchasing power of the currency, due to price variation, it nevertheless remains true that he sells his produce for a constant number of monetary units, or, in other words, at a fixed price. This peculiarity means that the cost of production[1] of a metal accepted for free coinage does not exercise the same influence over its rate as in the case of any other commodity; and this is true even of a metal which is used for monetary purposes, but is not brought under this system. For the principle already enunciated shows that if the cost of production rises the producer cannot obtain a larger number of monetary units than he obtained before. This is easy to understand; for if his gold were bought at a higher price under the system of free coinage, the result would be that he would obtain more gold in the form of coin than he handed over for minting; otherwise the scaling, *i.e.*, the definition of the monetary unit, would have to be altered for all existing coins, and while this would perhaps be the logical consequence of conceiving money as a commodity, it has never yet been done in the case of gold or even seriously considered since the system of free coinage has been in force. Hence the only direct effect of an increase in the cost of production is to limit

[1] We do not hesitate to use here the phrase "cost of production," although there is a tendency to discard it in certain theories of value. For we are unable to support those theories which merely set it aside because the influence of the cost of production is not always apparent. Moreover, it will be conceded by those who support this theory that in accordance with their own principles the value of money is independent of this cost, which they set aside. As for the remaining theories, even if they ultimately analyse away the notion of cost and give it only a relative value, this does not prevent the notion from being a very real thing from the point of view of the producer and from the point of view of the economist who analyses it, at every stage of economic equilibrium which he has under consideration.

that production. If, on the other hand, the cost of production falls, production will be stimulated, but for the reasons shown above a given weight of metal will always be exchangeable for the same number of monetary units, whether in the form of coin struck from the same metal or in any other currency. *Thus a metal accepted for free coinage will always be exchangeable for a constant number of monetary units, whatever its cost of production; the exchange value of the weight of metal corresponding to the monetary unit is therefore not directly influenced by the cost; as for the value of the monetary unit itself, in so far as it is admitted that it is influenced by variations in quantity, it may be said that it is perhaps indirectly influenced by the fact that variations in the cost increase or diminish the number of monetary units put into circulation. But under a modern monetary system this quantity does not depend solely on the amount of the standard metal, since other metals and substitutes for metal currency are in circulation and since the volume of the actual circulation is a function of the development of methods of clearing in any given country.* Finally, it is easy to imagine and to prove that there are variations in the volume of currency which are totally independent of the stock of metal or of any other product which has a marketable value and is intended to be used for monetary purposes.

The working of bimetallism, which is inexplicable on the basis that the exchange value of the monetary unit is determined by the rate of the "commodity" of which it is made, is easily explained in the light of the above considerations. The cost of production of each of the two metals has no influence on the exchange value of the coin, neither do the respective quantities of the two metals have any influence on the exchange value of the two kinds of *coin* struck internally from them and their fluctuations have only had a slight influence in monetary relations with non-bimetallist countries in connection with their requirements for the purpose of settling indebtedness *vis-à-vis* such countries.[1]

[1] See above.

And so our first conclusion is that, contrary to the classical theory, the exchange value of precious metals accepted for free coinage is not determined like that of any commodity on any market, for the very reason that a metal accepted for free coinage is not subject to supply and demand and enjoys an unlimited market at a fixed rate.[1] On the other hand, the amount of precious metals produced has only a partial and indirect effect on the value of the monetary unit.

§ 3. *The exact meaning of the idea of a monetary standard.*

But the preceding observations have also a different significance; for it was possible for two metals, *i.e.*, two different products, to appear simultaneously as the basis of a monetary system, because the idea of a monetary standard is not as important as the promoters of bimetallism thought and as many people still think. The rates of the two metals produced under different conditions would necessarily have been independent and the exchange ratio between them would necessarily have varied if they had not been both accepted for free coinage, with the result that the producers were certain to obtain a constant number of monetary units in exchange for a given weight of metal in spite of variations in the cost of production. *It was therefore impossible that both should at the same time have determined the value of the monetary unit.*

We are therefore led to the paradoxical but logical conclusion that neither gold nor silver has been a monetary standard in the ordinary sense of the word. Under the system of free coinage neither has determined the value of monetary units theoretically defined as a certain weight of fine gold or silver, and in practice embodied in mone-

[1] Is it not surprising, on further consideration, that phenomena connected with the value of monetary metals should continue to be explained so obstinately on the supposition of a commodity which is supplied and demanded on the ordinary market, whereas we have here a market on which the commodity offered is exchangeable for a constant number of monetary units, whatever the supply?

tary instruments of metal or paper. On the contrary, whatever the cost of production, they have been converted at fixed rates and to an unlimited extent into the monetary units of countries where either or both were accepted for free coinage. And even if the value of these monetary units may have been fixed by the quantity of precious metals which has been minted and so, *very indirectly*, by the cost of production, it should not be forgotten that this quantitative influence has been also exercised by the "substitutes" for metal currency, or in other words by fiduciary currency and even by such banking processes as enable unused money to be reduced to a minimum and the effective circulation to be *pro tanto* increased.

And so the value of monetary units appears to be independent of the circumstances which would have determined the value of the standard metal if the latter had been "a commodity like any other." On the contrary, it is the value of the standard metal which is bound up under the system of free coinage with that of the monetary unit, the variations in which are measured by the average rise and fall in prices, whatever may be the instrument in which such units are embodied.

Thus in each country the true *measure of value*, and therefore the true "standard" of values, is the national monetary unit, *the abstract unit of account* with which the precious metal is legally bought at a fixed rate, and *not the metal itself*.

It is true that there is one final objection to this idea. Under any given monetary system it is customary to consider, where there are several monetary instruments, that one of them acts as a basis for the system—in the case of bimetallism both are held to serve this purpose. For instance, under a monometallist-gold *régime* gold is considered to be the standard and the other monetary instruments only have value in so far as they represent gold and are legally and in fact convertible into it. Further, gold, once it is exported, maintains its value although through being exported it has lost its character of legal tender currency. The standard metal is therefore

held to possess an "intrinsic" value and its position as a standard metal is ascribed to this circumstance.

The truth is that the value of gold only remains constant when it is transported from one monometallist-gold country to another. Its value is maintained, after it has ceased to be legal currency, only because it enters another country where the system of free coinage and the fact that the monetary unit is defined in terms of a given weight of gold will also make it legal tender currency corresponding to that in the first country owing to the definition of the two units (metallic par). Ultimately there is nothing more than this in its so-called "commercial" rate; the proof is that in a country which possesses a fiduciary circulation convertible into gold but where the export of gold (*e.g.*, Switzerland, Spain, etc.) or its import (*e.g.*, Sweden) are prohibited, a constant ratio of value between its gold currency and foreign gold ceases to exist. On the other hand, it is true that gold is the basis of the monetary system in every monometallist-gold country, and other currencies are only held to have value in so far as they are convertible into gold. *But the sole reason for this is that gold currency is the only one which is also legal tender currency in a large number of other countries and ensures stable exchanges with them*, a situation which, as we have just observed, only arises when gold can be freely imported and exported.

Moreover, it should not be assumed that a monetary system which involves the use of a precious metal necessarily rests on a metal basis. Spain, for instance, from the end of the 19th century until the outbreak of war only had a circulation of notes and silver écus, with an abundant supply of the latter. Nevertheless the Spanish exchange was never, during this period, governed by fluctuations in silver, and, although notes were in practice convertible into silver écus, they did not derive their value from these écus which were worth much more than the metal. The *measure of values, i.e.*, the standard in Spain, was *the peseta, whether it was embodied in silver or paper*, and the value of the peseta in relation to foreign currencies varied irregularly but independently of the "intrinsic" value of the

silver écus, which were the only monetary instruments in the Spanish circulation to have a market value! And so, with any monetary system which includes an available metal circulation, we are accustomed to consider as the basis of the system or the standard that currency which gives to the entire monetary system a stable basis *for its monetary relations with foreign countries. This currency is usually of metal*, i.e., *gold. Therefore, in practice, we are right in considering gold as the basis of the system. But in fact gold only plays this part because, being accepted for free coinage in a large number of countries, a given weight corresponds in each of these countries to a given number of monetary units and because its international circulation makes it possible for one national monetary unit to be converted into another at a fairly constant rate.*

Therefore this does not mean that the value of these various national units of account, which are only connected with each other by the fact of their being convertible into gold, is determined by gold, and gold is the standard because it is a commodity; and so the above remarks can be easily reconciled with the conclusions which we have reached earlier; and we may deduce from them that an international fiduciary currency such as notes, which have currency in several countries, would constitute, as between those countries and without any support from metal,[1] an

[1] This idea has, of course, been known for a long time. It was brought out in particular by Cernuschi in "La monnaie métallique." It has usually been rejected. M. Bourguin, in his work already quoted on "La mesure de la valeur et la monnaie," stated that he could not understand how notes issued in the form of abstract monetary units could fail to be connected with a definite quantity of commodities. Without disputing that there is a real truth in M. Bourguin's remarks, it does not seem to us that the problem has been quite accurately stated. It is true in our opinion that the monetary unit was *originally* connected with a certain quantity of a commodity; and it would be a curious proceeding to issue notes in a new monetary unit unconnected with previous units; but we believe that an analysis of the notion of a standard and of the part played nowadays by precious metals in determining the value of monetary units shows logically that the value of such units which was originally determined by the exchange of precious metal as a commodity and in some sort established on this historic basis, has continued to develop under the system of free

international standard in the same way as gold, since the latter only plays the part of an international currency because it is convertible in a large number of countries at a constant rate into legal tender currency.

These theoretical considerations do not prevent us from recognising all the practical difficulties and dangers of an international fiduciary currency, nor the advantages of a metal currency, which no doubt has become, by tacit but almost universal agreement, by far the most important international instrument of exchange owing to its physical properties, its possible commercial value, and the circumstance that it can only be put into circulation in limited quantities.[1]

---

coinage under conditions which are different from those governing commodities, so that the "commodity" basis has become theoretically superfluous. The only function of gold in the future is to maintain a fixed exchange ratio between different monetary units, a ratio which might be obtained as easily by establishing direct convertibility at the same rate between one paper currency and another, or by substituting a universal currency for such national currencies.

[1] The ideas developed in this chapter are the direct result of an inquiry by the same author entitled "L'expérience bimétalliste du XIX^{e} siècle et la théorie de la monnaie," published in 1908 in the *Revue d'économie politique*, several passages of which have been reproduced here. The author thought that at that time it was right to mention, for purposes of comparison, G. F. Knapp's "Staatliche Theorie des Geldes," which he had only read when correcting the proofs of the above-mentioned article. It is for the reader to compare the theories set forth in the author's works with others which are more or less similar, but he will observe that the theoretical considerations here presented are the result of all the author's previous work.

PART III

MONETARY THEORY AND ITS APPLICATION IN PRACTICE

CHAPTER I

THE ATTEMPT TO DISCOVER A STABLE STANDARD

§ 1. *The nature of a monetary standard and the measure of values.*

In a preceding chapter we have attempted to lay down what is customarily understood by a monetary standard in current language and in the language of economists. We have seen that in defining a monetary system which includes various kinds of instruments of exchange, the economists have used this phrase to describe that instrument which appears to be the basis of the system and *from which the other monetary instruments appear to derive their own exchange value owing to convertibility*. We have observed that in fact the only objective criterion which in a monetary system distinguishes the basic currency is to be found in international payments, and that it is the currency which can also circulate abroad—usually after mere physical transformation—which is held to be the standard currency. Finally, we saw that although this currency, which remains legal tender abroad, is usually metal, its position as a standard currency is not essentially due to its being a commodity. For under the system of free coinage a monetary metal has a special market which enables it to be exchanged with certainty for a given number of units of account, the value of which, while originally it was connected with that of a commodity currency, has become independent of the value of the material in which it is embodied. And so, when we speak of the gold standard, the expression has a different meaning, *viz.*, that a monetary system so defined involves a stable exchange ratio—metallic par—between its monetary unit and the

units of other countries on a gold currency.[1] But this does not mean that the exchange value of this monetary unit in relation to all goods and services is nowadays determined by any market rate for gold, since the latter, as we have seen, no longer has a market rate.

In the last analysis *the idea of a standard comes down to that of the unit of account* by which the exchange value of various commodities in relation to the currency, and hence their exchange value among each other, is measured. And *this is the meaning which we have in mind when we attempt to find a suitable standard of values.* A monetary unit, whether it circulates after being embodied in some form of matter or whether it is used abstractly in some form of accounts, is perfectly adequate as a measure of values *at any given moment.* One object is worth 10 francs, another 20, another 30; from this observation it follows that the second object is worth twice the first and the third is worth three times the first and one and a half times the second.

But it is commonly stated in addition that money is a *standard which varies from one period to another;* for the same sum of money does not represent the same quantity of goods at different periods. In this form the observation is perhaps not quite accurate. If a hat which was worth 5 francs before the war is worth 20 francs to-day, the estimate, expressed in monetary units at different periods, exactly expresses the difference in exchange value of the commodity in relation to the currency at these two periods. Units of currency will accurately measure this difference over a lapse of time. The same applies to all commodities and we only have to take the average price level at the two periods under consideration in order to measure exactly any change which has taken place in the exchange value of all commodities in relation to the monetary unit.

[1] This stable exchange ratio is not only due to the amount of gold in each monetary unit, but to the fact that owing to free coinage and free export and import the gold currency of one country is convertible *ad libitum* in the other. This is shown by the dislocation of exchanges which happens between countries on a gold currency when gold can no longer move freely from one country to another and the currency of one can no longer be freely transformed into that of the other.

But the fact that currency is a variable or unstable standard does not only follow from the mere statement that the average price of commodities and therefore the purchasing power of the currency has varied from one period to another. We must try to define those cases in which, having observed a variation in purchasing power, we may attribute it to the currency. But it should be observed in the first place that a standard of values is not in every respect similar to any other standard of measure, and that it cannot be used in the same way. It is true that a monetary unit, like a unit of length, will enable us to determine the relation between the said unit and any objects, and to deduce therefrom the relation between the different objects. A monetary unit makes it possible to determine variations in the exchange value of a commodity in relation to that unit itself, *e.g.*, in the case of a hat, as between one date and another, or the exchange ratio between a hat and an overcoat at a given date, just as a unit of length will enable us to demonstrate by how much a wall in process of building has been raised between two different periods or to establish the ratio existing at a given moment between the height of a wall and the height of a tree. This kind of relation is given by the franc just as well as by the metre; but there are important differences between the nature of these two standards. As M. Bourguin says: "When we measure the length or the weight of some object by means of the metre or the gramme, we are demonstrating a mere ratio between two lengths or weights which *exist independently of this ratio*. The situation is quite different in the case of money; and if we say that a hectolitre of corn is worth 20 francs we are not comparing two 'intrinsic' values independent of each other, we are setting up a ratio which is of the essence of the idea of (exchange) value, since it is in this ratio that value essentially resides."[1] Indeed there is reason to hold that the idea of exchange value corresponds to that of a *reciprocal* measure, of a *ratio of value*, and does not necessarily imply anything more. It will now be

[1] "La mesure de la valeur et la monnaie," *Revue d'économie politique*, 1895, p. 235.

observed that this ratio, which is generally determined with the help of money, is not arrived at merely by chance. It may be said that this scale of values, which can be determined with the help of money as between different commodities at a given moment, or these changes which with the help of money can be measured from one moment to another, are built up on some of those characteristics which writers on the theory of value have attempted to analyse. But without introducing here any discussion of such theories it may be said that even if these characteristics may be attributed both to money and to commodities, they are in all cases relative and variable and could not give to the measure of exchange value a basis comparable with that given by length to the measure of length. And even admitting that the theory of value which attempts to reduce all value to mere utility has been successful, this utility is relative and varies with the ratio between the supply and demand. Finally, it should be observed that money, being a measure of values, is at the same time an instrument of exchange, and that according as it is issued in larger or smaller quantities it affords more or less purchasing media. As we have seen, the latter may be increased so as *to change the rate at which transactions take place and which money, as a measure of values, is intended to register*. This is the chief reason why money appears to be an unstable standard.

In fact it is not obvious *a priori* that it *is* unstable in all circumstances; but it may be said that, given its general character, *it does not imply stability* and sometimes there are serious reasons for believing that it is itself responsible for changes in the exchange ratio which it measures. Hence a standard of value cannot be expected to provide, like units of length or weight, a fixed point of comparison for the relations which it serves to establish. We all know what is the length of a metre independently of the data which it gives as to the length of the objects it measures, and if we demonstrate by means of a metre that a wall in process of building has been raised or that a tree has grown, it will occur to nobody that the metre may have become shorter.[1]

[1] We neglect here the very small changes to which the metre may be

With the franc, on the contrary, the only method of determining its value is *by comparison* with the objects which are valued by it, or with the mass of such objects, by ascertaining average prices. And if this average varies from one period to another, there is nothing to prove *a priori* that such variations are attributable to causes inherent in the commodities. A change in the ratio between the factor commodity and the factor money may be attributable to the latter.

Nevertheless it is still true that money as a standard of values enables variations in the exchange ratio between it and commodities as between one period and another to be measured, even if it has caused them, and to this extent it may be said to be an accurate standard of values. *And so the difficulty arises not so much from its inadequacy as an instrument of measure as from a general tendency to consider* a priori *that a sum of money at a given period must be equivalent to the same sum of money at another period, and to make contracts on this basis without taking into consideration those very indications which are given by money itself as a standard of values showing how such calculations ought to be corrected.*

This habit is no doubt due to the fact that usually price changes are slow and small over any period which affects a contract. It is probably also due to the fact that such variations in the average exchange ratio between the monetary unit and commodities over a given period have only recently been registered, and that the method of registration is still somewhat imperfect. As money is used, not only as an instrument of exchange and as a common measure of value, but also in some sort as an "accumulator" of values, it is evidently convenient, in carrying out transactions in successive stages over a period of time, to agree that a given sum of money shall always retain the same purchasing power. This can be done in normal times without any serious inconvenience; but it becomes quite impossible when exceptional events such as a general fall in production, excessive note issues or exchange crises make the purchasing power of money exceedingly variable.

liable owing to the fact that the substance of which it is made does not entirely escape the effect of variations in temperature.

Moreover, even with a normal monetary system, when the exchanges are stable and there is no increase in the volume of currency capable of destroying the balance between the supply and demand of commodities, prices will still vary with the technique of production. Hence the number of monetary units corresponding to a given quantity of commodities will necessarily vary from one period to another. Therefore we should not hold *a priori* that a sum of money at one period will be equivalent to the same sum of money at another period. In order to carry out transactions which are spread over a period of time, we ought logically to ascertain this equivalence with the help of coefficients. And it is money—a bad "accumulator" of value but an exact measure of changes of value—which will enable us to determine those coefficients.

§ 2. *Attempts to find a legal solution for the problem of unstable currency.*

Thus the problem appears to be much more legal than economic in character and it seems that it ought to be solved by the way of drawing up contracts.

Taking first long-term contracts, for instance long-term leases, a normal solution would be to fix a rent varying with the average level of retail prices—as set up, for instance, in France in the general statistics—in the year or half-year preceding the date when it falls due; such statistical data would make it possible to fix, on every date when the rent falls due, as nearly as possible a sum representing the purchasing power of the currency which was provided for when the contract was concluded.

We see the same idea applied in countries with highly depreciated currencies in gold loans, which often do not involve payment of the sums lent nor the sums reimbursed plus interest in gold valuta, but merely the payment in internal currency of a sum X, which corresponds at the date when each operation is effected to a given value fixed in gold. This system, which is based theoretically on gold and in practice on some foreign currency such as the

United States dollar, and which thus permits the payment at a given date of a sum corresponding to a given number of dollars and of the subsequent reimbursement of a sum which may be very different but corresponds to the same number of dollars, is easier to understand than the system which consists of providing at a given moment for the payment of a given sum in depreciated currency such as the mark, and the reimbursement of the same sum multiplied by a coefficient representing the change in its purchasing power, *i.e.*, the change which has taken place in average retail prices. Nevertheless this method of setting up contracts figured in gold is less logical for internal transactions because the correcting coefficient, instead of being based directly on variations in the purchasing power of the currency, is, in fact, based on variations in the rate of exchange between this currency and some foreign currency which has remained at gold par. And we have observed that the exchange curve and the curve of purchasing power do not usually coincide exactly.

In cases of rapid depreciation the same method is applied to all kinds of contracts. We have seen that in countries, like Poland, Austria (up to the monetary reform of 1922) and Germany, the commerical world contracted the habit of fixing their prices according to the rate of the dollar and continually changed the tickets on their goods.

And so we arrive at the theoretical conception of a curious system under which variations in purchasing power are neutralised by applying to all debts and credits, whether among private persons or as between private persons and the State, a coefficient varying according to the date at which they fall due.

In practice it will be observed that this adjustment works very unequally according to the character of the obligations. Returns from the sale of goods will change more or less in proportion with the price of those goods if the market is not restricted, and the seller, by increasing his price, may find some compensation for the general decrease in the purchasing power of the currency. He is bound, however, to take into account a possible decline

in the purchasing power of the currency between the moment when he receives it and the moment when he expends it, either on purchasing new supplies or on objects of personal consumption.[1] Wage-earners obtain rises in salary which are more or less proportionate to the new purchasing power of the currency; small wage-earners usually succeed at the beginning of a crisis in keeping up the full purchasing power of their earnings, whereas high wage-earners, and in particular the higher grades of officials, are sacrificed. On the other hand, persons with a fixed income, derived from fixed interest-bearing securities, only receive the nominal sum provided in their contracts without any coefficient of increase. House-owners are also bound by their contracts, wherever they have signed leases, and often meet with legal obstacles when they attempt to raise rents in new contracts in the same way in which traders alter their selling prices.

As regards public expenditure, variations in the purchasing power of the currency will affect it through salaries of staff and the purchase of material; it is not affected by loans contracted before the depreciation set in and is comparatively little affected by subsequent loans, since the rate of interest does not rise in proportion to the decline in the purchasing power of the currency. On the other hand, State receipts may increase nearly in proportion to the depreciation of the currency owing to the indirect taxes and taxes on income which more or less follow the advance in prices. And so, in the absence of any uniform rule to counteract their effects, changes in purchasing power of money bring about serious disturbances in legal and economic relations. Moreover, the resulting inequalities may have the curious result of promoting budgetary equilibrium to a certain extent, as the Budget, in countries where the public debt forms a large part of the public expenditure, benefits by the small

[1] Hence, as we have seen, he will discount this possible depreciation and raise selling prices above the level already reached and so provoke again the very depreciation which he is trying to avoid.

rise in the rate of interest, whereas revenues increase more nearly in proportion to the rise in prices.

But the tables may be turned when the public debt is practically wiped out by the unlimited depreciation of the currency and the Budget no longer contains any expenditure except in respect of staff and material, items which increase in direct proportion to the depreciation, whereas the returns from taxation lag behind the movement of prices.

As depreciation progresses and is accelerated, efforts are multiplied to counteract its effects continually and automatically in all relations between creditors and debtors; scales of salary are set up which vary automatically with the cost of living (internal purchasing power of currency) or with the value of gold. Most commercial and industrial transactions are based on gold—in practice, on some foreign currency. As shown above, gold loans are issued and taxes are collected in gold by the same method.[1] This procedure approaches as nearly as possible to the logical system of neutralising variations in purchasing power of currency by applying coefficients proportionate to such changes and also varying according to the date at which payment is effected. But even apart from the enormous accounting difficulties implied by such a system, it hardly seems possible to apply it uniformly. Changes in purchasing power are sometimes so rapid and so great that even with scales of salaries which vary every fortnight or every week, a workman cannot know for certain what quantity of goods he will be able to purchase from one day to another with the sum of money which is supposed to support him until his next pay day. Still worse, a peasant who has sold his products on the market, whatever immediate profit he may have realised, does not know

[1] See the preceding account of the collection of taxes in Germany. The same method was introduced in a more elaborate form in Poland, where the "zloty" was introduced as a unit for measuring and assessing taxes; the zloty was supposed to represent the purchasing power of the amount of gold contained in a zloty as published officially in the index of wholesale prices; this purchasing power is that of 1914 multiplied by a coefficient corresponding to the index.

what he will be able to obtain in exchange if he does not immediately spend the entire sum he has received. And so all security in transactions and all possibility of saving disappear unless a coefficient of depreciation is applied daily and all sums received can be deposited at once with power to withdraw, not the sum deposited, but a sum which on the day of withdrawal will be equivalent to it after applying a coefficient.[1]

It is easy to see how difficult it is to push this system to its logical conclusion and to what economic disturbances a country will be exposed if it adopts this procedure. Hence it is explicable that parliaments and law courts will as far as possible use their influence against any legal provision which is likely to involve the contracting parties in this kind of mechanism. Thus the French law of February 12th, 1916, which asserted the principle of forced currency, prohibited discrimination between fiduciary and metal currency, and French courts tend to prohibit obligations figuring in gold francs for internal transactions, even if they do not involve actual payment in coin.[2]

[1] We have seen above how, particularly in Germany, stable accounts were opened in gold accounting units, but that this did not satisfactorily solve the problem so long as the mark was not stabilised externally.

[2] It is obvious that if a contract stipulates for payment in gold francs, even if the actual payment is met in paper francs, the necessary result is to create, even in internal transactions, a difference between paper francs and gold francs, and to provoke in favour of the latter an internal agio which it was intended to prohibit under the law of 1916. The courts have usually been right in regarding this as a matter of public welfare and it is evident that private individuals, in their attempt to avoid the effects of a depreciation in the national currency by provisions of this kind, will only hasten that depreciation. French courts have, however, been somewhat hesitating in the matter, particularly in cases in which the clause "payable in gold" is previous to forced currency and also in cases in which it refers to long-term contracts (leases), for which we have seen that there is a more accurate and more logical solution.

Finally, it does not always distinguish with sufficient clearness between international and internal transactions. In the latter case, the stipulation to pay in some appreciated foreign currency is generally inserted for the same reasons and has the same effect as the stipulation to pay in gold francs. In our opinion, it is therefore erroneous to argue in favour of this clause by

On the other hand, it would be impossible, in the absence of any express legal provision, to consider as illegal any clause under which a payment at a given date was fixed in relation to changes in the average price level and therefore in the purchasing power of the currency. When applied to a long-term contract between private individuals a provision of this kind justly takes into account events which cannot be foreseen and it could ultimately only promote the conclusion of such contracts. But apart from the fact that the stipulation to pay in gold units is not completely adequate to the case, since it in fact relates such payments to the rate of exchange with countries on gold currencies, whereas the real risk which it is desired to avoid is the change in the *internal* purchasing power of the currency, it has the serious disadvantage of encouraging an agio on gold in internal transactions, and so runs the risk of accelerating internal depreciation by linking it up with the loss on exchange. The habit of the commercial world in countries with highly depreciated currencies, such as Austria, Poland and Germany, of keeping their accounts and subsequently of fixing their prices according to the rate of the dollar, was indeed a result of the depreciation which had already taken place. But it also contributed largely to increasing this depreciation by inducing changes in the price of a large number even of non-imported commodities, which immediately followed all the exchange movements due to the fancies and panics of international speculation. Finally, *the habit of keeping accounts in a foreign currency must necessarily give further encouragement to private individuals to obtain that currency in order to preserve their savings; the quite unusual demand for media of payment abroad which results from this practice creates an irremediable deficit in the trade balance and so drags the exchange and the internal depreciation into a vicious circle.*

Hence it seems that apart from coefficients of variations

reference to Article 143 of the Code de Commerce, at any rate since the law of February 12th, 1916, has prohibited discrimination between gold currency and the national fiduciary currency.

in purchasing power applicable to long-term contracts there is no really practical solution for the legal problem arising out of the instability of a monetary standard or, more accurately, out of variations in the purchasing power of a currency. Hence our real problem is to prevent these variations themselves; but here we come back to the domain of economics.

§ 3. *Conditions for an economic solution of the problem.*

The problem of obtaining a currency with a constant purchasing power has long engaged the attention of economists. Walras, in particular, proposed in 1876[1] a monetary system involving the gold standard—gold alone being admitted free coinage—with a regulating subsidiary silver currency. This means that the issue or withdrawal from circulation of the supplementary silver would have been, in the view of the author, such as to compensate price variations by compensating variations in the volume of currency, *i.e.*, contraction in the event of a rise and expansion in the event of a fall. There is a somewhat similar idea behind the plans put forward by Mr. Irving Fisher, even before the war, for a compensating dollar, that is to say a dollar with a varying content of gold. The same idea dominates the Cassel plans for monetary stabilisation; for while the object of the latter is to stabilise the exchanges by maintaining purchasing power parity, it is by first regulating the monetary circulation of the country concerned that he proposes to regulate the internal purchasing power of its currency and thereby the desired parity between that internal purchasing power and the external purchasing power resulting from the exchange.

Mr. Irving Fisher's plan was formulated and discussed even before the war.[2]

[1] See his mathematical theory of bimetallism, which appears in the *Journal des Économistes* of December 1876 and in various subsequent writings.

[2] See "De la Nécessité d'une Conférence Internationale sur le Coût de la

The author says that "under this plan the number of grains in the 'virtual' dollar would be increased from time to time sufficiently to compensate for any loss in the purchasing power of each grain and the number of grains would be diminished enough to compensate any increase," and he adds, "The quantity of bullion gold which is at any time convertible into the circulating dollar may be called the virtual dollar, for it is evident that this bullion gold is the ultimate monetary unit." Hence, in order to have a suitable standard it is only necessary to adopt a dollar which will no longer correspond to a given weight of metal but to a weight varying with the purchasing power of the monetary unit previously determined. Thus, "an increase in the weight of the dollar will, in any given quarter of the year, be proportional to the amount by which the index number stands above par at the beginning of the quarter." Finally, the author adds that "in order to put this system into practice it will not be necessary to be continually melting down coin. A gold coin of ten dollars can always weigh 258 grains but it will be worth 270 or 280 or any number of grains which constitute the virtual dollar; for, as it is convertible into this virtual dollar, it would in itself be a gold certificate printed on gold instead of on paper. If the virtual dollar were 30·8 grains, the difference of 4·2 grains would be kept by the Government as a guarantee fund for the purchase of bullion gold or gold certificates."

This presupposes that the system of free coinage will disappear in the form in which it at present exists, that is to say with the conversion, weight for weight, of bullion into coin, corresponding to a number of monetary units fixed once for all, each unit corresponding to a given weight of fine metal.

Nevertheless gold would not be in free commercial circulation; for supplementary provisions in a plan are

---

Vie" in the *Vie Internationale*, Vol. III, pp. 295–311. See also an article entitled "A Compensated Dollar" in the *Quarterly Journal of Economics* of February 1913, and "The Purchasing Power of Money." See, finally, the number of the *Journal de la Société de Statistique de Paris* (of March 1913) containing a very interesting discussion in which MM. March, Neymark, Edmond Théry, Roulleau, A. Deschamps and A. Landry took part.

intended to prevent any speculative purchase of yellow metal. On the whole, it amounts to a return to the system of variable rates of purchase which existed before the French Revolution,[1] but with this difference, that the scaling, instead of being arbitrary, would be automatically drawn up in accordance with variations in the purchasing power of the currency.

But what would be the effect of this method? Would it even have the practical result of the legal method described above in altering sums due under long-term contracts by applying to them a coefficient set up in accordance with the purchasing power of the currency?

The truth is that our author appears to have been the victim of an extraordinary illusion which demonstrates the danger of reasoning in the abstract without regard to the real economic facts. He admits that the value of the dollar will increase and that therefore the price of goods in dollars will fall because it will be known that the dollar contains a larger quantity of gold—nay, from the mere fact that the dollar will *represent* more gold, even though the public is not aware of it; for he says, most people will continue to use the ordinary media of exchange (whether gold or silver coin or fiduciary currency) without ever knowing what has happened, and he believes that his argument is fortified by the precedent of the adoption of the gold exchange standard in India, in the Philippine Islands, etc., which made of the "gold not in circulation" the basis of the monetary system.

Now the first effect of such a system would, as the author himself recognises, obviously be to dissociate the exchange value of a given weight of gold from that of the monetary unit which the system of free coinage, implying a permanent correspondence between the monetary unit and a given weight of fine metal, had made identical. On the other hand, trade would continue to be effected and valued in terms of the monetary unit, whether embodied

[1] This has been clearly pointed out by M. Deschamps in the above-mentioned discussion. See *Journal de la Société de Statistique de Paris*, March 1913.

in some monetary instrument or merely in the form of a unit of account in regulating payments by setting off one claim against another. Again it is the author who emphasises this fact. This being the case, how can it be admitted that prices, which express the exchange ratio between dollars (for instance) and goods, will be determined as if the said goods were exchanged, not for the dollars, but for a variable quantity of gold unknown to the man in the street and independent of the number of the said dollars ?

Indeed there is one assumption on which variations in the weight of fine metal represented in the dollar might under such a system react on dollar prices. This assumption is that the system would not be universally adopted and other countries would remain with a system of free coinage for gold and a constant correspondence between the monetary unit and a given weight of fine metal. For in this case any change in the fine metal content of the dollar would produce a change in the par rate between the dollar and other gold currencies; the gold points would be shifted and the rate of exchange would consequently be modified when it depended on the gold points.[1]

Hence in the event of a rise in prices which would bring about an increase of the content of gold in the dollar, the latter, instead of representing as it does at the present time approximately one-fifth of a gold pound, would represent a larger fraction. Thus it would become possible by having dollars re-coined into pounds to obtain a larger number of units in the latter currency and therefore the price of imported goods payable in sterling would fall and tend more or less to bring about a fall in the general internal price level in America.

But this is a possibility which Mr. Irving Fisher does not appear to have contemplated ; and it is contrary to his views and to his wishes ; for in order to meet a rise in world price it would be necessary to take international measures. But if Mr. Fisher's system were applied all over the world and if therefore gold were admitted to free

[1] This was clearly pointed out during the above-mentioned discussions, particularly by M. Edmond Théry.

coinage at a variable rate but with simultaneous variations, so as to maintain a par rate as between different gold currencies, it is indeed to be supposed that buyers and sellers who will be less anxious to know the gold content of their national monetary unit than to estimate the quantity of goods represented at home or abroad by the sum of money of account in question, would be quite indifferent to changes in the amount of gold theoretically contained in the dollar or in any other currency.

We have indeed seen that before the French Revolution when very different currencies circulated concurrently—as indeed at the present day in China and for the same reasons—the public was interested in the content of fine metal in the currency, the value of which was determined by weighing. Similarly, exchange brokers in the most advanced countries are still concerned with the weight of coin in international payments. But it is to be observed that in general the public is completely indifferent to the metal content of currencies. The public may have a general preference for metal currencies, of which the future value is more secure; but the man in the street at the present day, who can very well conceive what different kinds and quantities of commodities are represented by the monetary unit in ordinary use, is incapable of any direct understanding of the value of a given weight of metal; and if he prefers for export a heavy coin instead of a light coin, *the reason is that heavy coins represent a larger number of monetary units in the legal currency of foreign countries than light coins.*

Setting aside then, on the present assumption, the question of international settlements, it may be admitted that the public, having to receive or pay a given number of units of account, would not be inclined to give or exact a larger or smaller number according as this unit represented a larger or smaller quantity of gold. And variations in the content of gold in the dollar would doubtless have no effect on prices except through the quantity of dollars in circulation, and except in the unlikely event of the variations in quantity being such that the Quantity Theory would come into play.

The working of the gold exchange standard, on which Mr. Fisher relies, has nothing in common with his system. It is true, of course, that gold which is not in circulation, or at least not in internal circulation, plays the part of a standard in the sense described above, *i.e.*, *it is a common monetary basis as between countries whose monetary units are directly or indirectly defined as corresponding to a given weight of gold and in which that given weight of gold is accepted for the number of monetary units thus fixed.* It is also true that this system, under which exchange stability is secured, also confers upon internal prices that approximate stability which exists in countries where the exchange is contained within the limits of the gold points and where the circulation is not subject to very wide variations. Finally, it is true that gold being an international standard may also serve as a measure of internal prices since the goods within a country are sold for instruments of exchange which themselves stand at a constant parity with gold. Finally, it is perfectly true that if this parity were changed, and with it the theoretical content of gold in the internal currency, internal prices would be more or less affected. But is it sufficient to admit the part played in this system by gold, which is invisible and absent from the internal circulation, in order to arrive at a favourable judgment of Mr. Fisher's plan?

Certainly not. We shall see this when we come to examine more closely the way in which the gold exchange standard reacts on prices.

This system presupposes in general a constant ratio between the monetary unit and the amount of gold represented by it. When, as a result of exceptional circumstances, the parity has to be changed, there also takes place a change in the ratio of the national monetary unit and *foreign* monetary units. The Indian rupee, for instance, represented in accordance with the law of 1893 one-fifteenth of a sovereign, that is to say of the weight of gold contained in one pound sterling, and it actually was worth one-fifteenth of a sovereign from the time when it could in fact be converted at this rate and as long as this convertibility lasted. In 1920 the parity was changed and the

gold value of the rupee was raised to one-tenth of a sovereign. *The rupee therefore came to represent a larger number of monetary units in Great Britain and also in the United States, Japan, etc.* This change in what may be called theoretically the gold tenor of the rupee may have had *some* effect on internal prices in India, because it enabled imported goods to be purchased more cheaply in rupees and thus enabled exported goods to be sold less dearly in rupees. But the relation of cause and effect between the change in the theoretical gold tenor of the rupee, of which the silver rupee is more or less the representation (as would be Mr. Fisher's gold dollar, since it is partly fiduciary in character), is indicated by *a variation in the rate of exchange due to the change in parity* —or in the gold tenor—*and to the increase in the number of foreign monetary units which could thenceforward be obtained by the rupee. Hence it is impossible to argue from this observation that changes in the theoretical gold tenor of a monetary unit are such as to affect prices if these changes have not modified the rate of exchange and enabled the internal monetary unit to represent a larger number of foreign monetary units.* This assumption is eliminated in the international plan for a "compensated" currency drawn up by Mr. Irving Fisher.

Thus in order to make this plan plausible, we should have to adopt an interpretation different from that of the author—the one given by M. Gide—namely, that when the gold content of the dollar is increased, the number of dollars is diminished, so that the value of each one is increased—and *vice versa*. But here we can only repeat the reservations which we made in connection with that application of the Quantity Theory which states that any variation, however large or small, in the volume of currency, reacts at once and definitely on prices. This statement, put in the form of an arbitrary generalisation, misinterprets the meaning of observations made in a closed market in which an increase in the volume of currency strictly means an increase in demand and in which supply cannot increase in proportion to demand. Moreover, it fails to take into account the extreme complexity of monetary

mechanism at the present day, whereby the real circulation is largely independent of the stock of metal.

It is true, of course, that a heavy flow of currency is likely to stimulate a demand for goods more rapidly than a corresponding development of credit would increase production, but it is much less true that a decrease of the stock of metal would result in a decrease in the demand for objects of consumption more quickly than in a contraction of credit and of production.

In any case, a theory under which the movement of prices is affected by slight and frequent variations in the stock of currency seems to us to have neither a logical basis nor to be capable of proof in view of the large number of external factors which may come into play. It therefore seems to us to be entirely useless to attempt to regulate the monetary standard and even to neutralise the slight variations in prices which are the inevitable result of changes in the production and in the markets of various commodities. On the other hand, experience shows that apart from rare periods of crisis in which the scarcity of production, the increase of monetary instruments or the condition of the exchange may provoke an abnormal rise in prices, variations in prices are small enough as between one period and another in a man's life for it to be possible, without serious inconvenience, to use money as a standard of deferred payments.[1]

Starting therefore from a belief which may be rough and ready but which appears to us to rest on a surer basis, that only very considerable changes in the volume of circulation will produce equally large variations in the purchasing power of currency, we will confine ourselves to the conclusion that the maintenance of approximate stability in the purchasing power of a currency presupposes the maintenance of the circulation without any great changes at a figure corresponding to the price level which it is desired to maintain.

Moreover, it should be remembered that this is not the *only* condition for approximate stabilisation, for *experience*

[1] Except as we have shown above, in so far as it may be possible to apply a coefficient based on the index of retail prices for long-term contracts.

has shown that irregular exchange movements if they go beyond a certain point will provoke equally irregular movements in the purchasing power of currency and bring in their train all the economic and social disturbances which have been described above, and which it is customary to attribute to inflation, but which are, in fact, the result of the rise in prices, however caused. Hence the second essential condition for approximate stability and the only one which in our view it is possible to attempt to create, is the stabilisation of the exchanges.

CHAPTER II

THE RETURN TO NORMAL EXCHANGES

§ 1. *Remarks on the nature of the exchange and on the idea of stability.*

Taking the example of certain countries in which irregular price movements have been in direct relation to exchange fluctuations, we have just seen that the problem of obtaining a stable monetary standard may be directly bound up with the problem of exchange stability. The latter problem deserves to be studied by itself; for there are countries which, having escaped the more serious upheavals due to an unlimited depreciation of the monetary unit whether external or internal, have been seriously disturbed in their economic life by an unstable exchange. Even when the internal purchasing power of a currency has not been so far affected as to lose its normal function of a standard of values over any considerable period, exchange fluctuations have nevertheless put serious difficulties in the way of commerce and industry by removing a sure basis for transactions with foreign countries. More than this, if irregular exchanges are prolonged even though the actual depreciation may still be slight, *there is always the threat of some sudden aggravation and of unlimited depreciation with all the series of disasters involved thereby.* For in spite of what Mr. Cassel says, the example of countries like Poland or Germany has shown that, once the limits of the gold point have been crossed, there is no factor other than a return to the convertibility of internal currency into external currency which can arrest the fall of a currency which has become a prey to all the vicissitudes of speculation. The problem of stable exchanges, and therefore of stabilising the exchanges, is one of those practical

problems the solution of which is of the greatest importance for the destiny of nations, especially at the moment of emerging from a crisis such as the world has just experienced. It is also one of those economic problems the solution of which modern theory may help forward by contributing some scientific data.

It is important, therefore, to define what such data are and in the first place to throw overboard certain prejudices which arise from a misunderstanding of the very idea of stability. The phenomenon of the exchange, when we consider it together with all the complex of actions and reactions which accompany it, fills such a large place among the facts which lie within the field of an economist's observation that certain economists consider it as a necessary phenomenon and call it "natural," as though it were one which it is not within our power to prevent, even in an extreme form; they assume that it is the result of a whole complex of circumstances due to the unconscious action rather than to the deliberate will of man, and that it has the peculiar virtue of counteracting its own excesses but cannot be restrained by public authority, except perhaps by an indirect and slow influence over the numerous factors which determine it.

We have already seen from numerous examples that it would be too optimistic to rely on the regularising factors which emerge from a study of exchanges to the extent of assuming that the very fluctuations of the exchange are always effective as a regulating agency. On the other hand we have observed that a policy of regulating the exchanges deliberately and over long periods has been successful in various countries. But our analysis of the problem must go much further.

Coming back, therefore, to the elementary mechanism of the exchange as we have come to know it in actual business or in reading technical works, we observe that it is essentially a process of clearing as between two markets, which is effected by means of the negotiation of bills of exchange. The object of this method is simply *to avoid the transport of bullion or specie whenever a payment has*

to be effected. On the other hand, it permits of debts and credits being set off against each other *in so far as they balance*, when for one reason or another the currency which is available on one of the two markets is not accepted on the other. The *rate* of exchange, *viz.*, the rate at which the negotiation takes place, can *in the first case* only vary *within the limits* corresponding to the *cost of transporting bullion*. In the second case it fluctuates outside any limits.

It is clear, therefore, that the phenomenon of exchange shown by variations in the cost of transporting a given sum of money between two markets *only arises when there is no method of settlement which is more economical and capable of being carried out at a fixed cost*. Thus, for instance, there was at one time a rate of exchange as between Lyons and Paris as well as between Paris and Brussels in order to avoid the difficulty and expense of transporting bullion backwards and forwards between these two towns. The Bank of France, which offers its services free or in return for an insignificant and fixed remuneration, nowadays makes it unnecessary to resort to the process of exchange between the first two towns, and the Bank does not thereby appear to have violated the "natural laws" of economic life. It is easy to conceive, however, that the same system might work as between Paris and Brussels or between Paris and Rome or Madrid, if a common bank of issue extended all its operations over all these markets; and it does not require a violent stretch of the imagination to see an international bank of issue at work as the successor to the various national banks of issue, substituting for the various national notes a single fiduciary currency and having the task of effecting all the world over payments as between one market and another similar to those carried out at the present day within the limits of a great nation. It is true, of course, that such a scheme may be utopian for political reasons; we only wish to emphasise here that it is easy to imagine.

It is obvious that the *exchange*, which is an *economical* method of settlement *but of varying cost*, and is based on a mechanism of clearing, *is not necessarily international in*

character. It has existed as between two markets in the same country; it may also disappear in settlements as between markets affecting various countries and be replaced by some other process of clearing which is still more economical and capable of being carried out at a fixed cost. The substitution of a process of settlement at a fixed cost for the process of settlement at a variable cost which results from present exchange mechanism may, however, have different economic results according to circumstances. Between two markets which have a single monetary circulation *entirely common to both*, as is the case, for instance, with settlements between two markets or districts in the same country, the fact that the rates of transfer are low and fixed is obviously convenient; for nothing should limit transactions except the resources of the individuals who take part in them. If an inhabitant of Marseilles has 100,000 francs to spend he is able to spend them as easily on purchases in Paris as on purchases in Marseilles. He will therefore not be inclined to purchase more in Paris than he can pay for there.

On the other hand, the situation is different as between two markets or two countries which have no currency in common. Take two countries each of which only has a national and inconvertible paper currency; a merchant at Genoa who has 100,000 paper lire to spend cannot make purchases at Marseilles with his own currency and he may have some difficulty in obtaining the French francs which he requires for this purpose. In these circumstances, the mechanism of the exchange has the advantage of enabling him to obtain these francs *in so far as the exchange of goods between the two countries has thrown francs on the market* and also, it may be said, of supplying francs *at a rate more or less bound up with the balance of debts and credits* between the two countries, and that it will automatically stimulate or repress purchases abroad according as the balance is positive or negative. In the absence of any other method of settlement recourse must be had to the setting off of debts and credits against each other; and it may be said that the exchange market

effects this adaptation with greater elasticity than any other form of regulation. For this reason the phenomenon of the exchange has seemed to many people to be a manifestation of some spontaneous force making for equilibrium which is in some sort natural and on the whole beneficent.

We have seen above how far this opinion rests on a study of the facts. But it has also not escaped us that in a market in which the exchange fluctuates without limit and is subject to all the impulses of speculators, *it is very far from being governed solely by economic factors and in particular by the balance of accounts*, and we have noted the serious disturbances which may be caused by exchange fluctuations ending in unlimited depreciation.

A respect for the "natural" forces which create economic phenomena should not therefore go so far as to make us consider as necessary those irregular fluctuations of the exchange which occur where there is no common monetary basis with the other countries. It would indeed be strange if the system of *stable exchanges which existed before the war*, namely, of *exchanges restricted within the limits of the gold points*, should nowadays cease to be considered as *normal*. Moreover, surely it would be "natural" in a world in which transactions are carried out between all countries, however far distant from each other, that settlements should take place on a monetary basis common to all countries. It would therefore seem that if there were substituted for national currencies a single currency for the whole world and *if therefore the entire volume of currency available in every country were international in character, the problem of the exchange would no longer arise;* even if this method of clearing still continued to exist between certain markets, the extreme rates would be limited by the cost of a registered letter. Thus, for instance, in the absence of a gold circulation sufficient to form a single universal currency, it is easy to imagine the existence of a single fiduciary currency issued by an international organ. It will be seen after referring to the chapter devoted to the study of the idea of currency and of a monetary standard that an international fiduciary currency issued limited in quantity would

easily serve as an instrument of exchange and as a universal standard. In any case it will be admitted that as gold ceased to be indispensable for international settlements the public would come to attach less and less practical importance to the existence of the metal "cover." But we shall avoid attempting to deduce any practical scheme from these ideas, first, because it would be useless at the present moment in any case to forecast the creation of an international bank of issue, and, secondly, because such a bank with a world-wide privilege, while it would doubtless easily fulfil its monetary functions, could only be substituted with great difficulty for the national banks of issue in so far as their task of regulating credit is concerned.

And so, even admitting the creation of an international fiduciary currency which is conceivable (in spite of certain objections)[1] it does not seem possible to include in any practical plan the *complete* substitution of such a currency for the existing national currencies. *Therefore we must face the problem of monetary reconstruction by taking as a basis a monetary system similar to that which existed before the war.* In other words, we must assume that *national* monetary systems will continue to exist *partly* involving paper or silver currencies which only circulate at home and *partly* involving a currency which circulates abroad and can be freely exported and which, for the present, is gold and gold alone.

Such a system implies that there exists virtually an exchange problem; for when any sum of money circulates at home but cannot be used for purchases abroad, the question of *convertibility* necessarily arises in regard to international payments. And upon the way in which this question is settled will depend the solution of the problem of the exchange. If gold is hidden or cannot be exported, the circulation of a country is in fact entirely inconvertible, for *even gold currencies are only international currencies if they are*

[1] See in *Le Monde Nouveau*, June 1919, an article by the author on "Le problème des règlements internationaux et l'idée du billet international," in which he has merely intended to point out the theoretical possibility of an international issue of fiduciary currency.

convertible into the currencies of other countries by export, import and re-coinage.[1]

If, on the contrary, it is possible to obtain at a constant rate, either by taking it out of circulation or by buying it from the bank of issue or any other establishment appointed for the purpose, the gold necessary for export and to receive imported gold under similar conditions, the exchange will be confined *within the limits of the gold points* so long as convertibility is maintained; this will be a system of *stable exchanges*.

It is important to emphasise what exactly is meant by a stable exchange and by the stabilisation of exchanges. For many highly-qualified experts who have not made a sufficiently detailed examination of the subject have been led to imagine that stabilisation consisted in "determining" the exchange by "artificial" means and by preventing the normal factors from operating. In fact, as is clearly shown in Chapters III and IV of Part I of this book, stabilisation usually consists merely of re-establishing the gold points by making the internal currency again convertible into gold currency.

§ 2. *Stabilisation and the return to the gold standard: system of convertibility limited to external requirements. Fundamental similarity between various systems of gold standard.*

It would therefore be quite false to contrast stabilisation and the return to the gold standard. Stabilisation is merely one method of returning to the gold standard, which rests on the same basis as any other method of converting internal currency into gold; further, it is desirable for reasons of convenience.

We have seen above how the method described as being that of the gold exchange standard or of the gold reserve quite naturally follows from the elementary technical pro-

[1] As, for example, in Sweden, where, the import of gold being prohibited, exchanges are disturbed even with countries on a gold currency where the export of gold is permitted.

cess of exchange and we have observed that by limiting the convertibility of fiduciary currencies into gold to requirements for payments abroad and by keeping for this purpose a reserve of gold coin which would otherwise be lost in the internal circulation, it provides a much greater margin of security than the method of making notes convertible without limit and retaining the internal circulation of yellow metal. It cannot be reasonably argued that this system is more artificial than the older system of fiduciary currency, nor the one by which a given number of the same monetary units are assigned to coin of different metal. If there has been in our modern monetary systems any artifice, fruitful though not without its dangers, it has been the creation and diffusion of bank-notes which are legal tender currency and ultimately govern the entire monetary circulation and may become suddenly inconvertible! But it is a mere question of form whether convertibility shall be complete or limited to foreign requirements, whether it shall be effected by a *direct* transport of yellow metal or by the transmission of a *bill payable in gold*, whether it shall be in the hands of a bank of issue or of a more or less independent organisation. The Bank of Austria-Hungary, as we have seen, played the part of a conversion office or exchange office without any official differentiation between its monetary task and its banking task.

When we face the problem which has to be solved it is therefore clear that to adopt the gold exchange standard merely amounts to adopting one method of returning to the gold standard and to gold points by establishing the convertibility of the fiduciary note issue. This method is more economical and more rational and is not a mere expedient, as some authors like to have it understood. And if the idea of stabilisation is contrasted with that of merely suppressing legal tender currency, it can only be because the former method appears to imply the adoption of a *new parity*. But here again there is no fundamental opposition between the system of the gold reserve and the old system of a gold standard with gold in circulation at home; for

the adoption of the latter system in no way prevents the former par from being replaced by a new par as has been done in several countries such as Japan and Russia, which have adopted this classical method of monetary reconstruction. On the contrary, it should be observed, as we have already stated above, that *in the latter case the devalorisation is final*, whereas under the much more elastic system of the gold reserve it is possible to fix a provisional parity adapted to the actual requirements of foreign trade and one which in no way excludes the possibility of a *gradual recovery by successive stages*. If therefore we look at the facts as they are and if we consider how many countries there are where a depreciated exchange cannot be brought back to the former par without a serious crisis, we shall conclude that the problem of stabilisation should be solved by setting up *new gold points;* and it would seem that preference should be given to a system which allows the problem to be solved without it being necessary to take a decision in advance as to the ultimate devalorisation of the monetary unit.

In order, however, to explain the nature of this problem to the reader, we still have to reply to the objection that the system of the gold reserve cannot stand any prolonged deficit in the balance of payments. It is indeed true that the gold exchange standard, like any other similar system based on the convertibility of the internal currency into a foreign currency, cannot work unless the reserve of gold or foreign currency, *i.e.*, the volume of metal or of credit, is large enough or elastic enough to meet any possible demands for payments abroad to the extent to which private bills may be insufficient for this purpose. *But the same problem arises with all other methods of using the gold standard*, so much so that *with an equal stock of gold* it is much easier for a country to withstand a deficit in its balance of payments abroad if it sets aside all its available gold for foreign payments than if it allows that gold to be lost in internal circulation.

Nevertheless it may seem as though this theoretical objection had been confirmed by a superficial study of

circumstances prevalent during the war. The conversion office in Brazil, it has been said, ceased to function after 1914; the same is true of the office in Argentina at a later date; finally the gold exchange standard has been shaken even in India. But this observation is subject to a certain number of serious qualifications which deprive it of its significance. In the first place the conversion office in Brazil was not set up in such a way as to ensure the regular working of the system of the gold reserve; for on the one hand it did not make the entire internal circulation convertible in general, but only the notes issued by itself. Again, it was only authorised to accept gold from abroad in limited quantities; and this restriction had the double effect of eliminating the import gold point—as in fact happened in practice—during periods when the balance of payments showed a large surplus and of preventing the conversion office from constituting a gold reserve sufficient to meet requirements during periods when the balance of payments was in deficit. As regards the Argentine, the conversion office, after having kept the exchanges perfectly regular from the end of 1904 up to 1914, was no longer required after the beginning of the period of hostilities (law of September 30th, 1914) to guarantee the convertibility of notes into gold. Nevertheless the Argentine exchange was well kept up until the end of the period of hostilities.[1] It was not till after this date that the rate of

[1] M. Décamps has pointed out (*op. cit.*, p. 177), as a definite proof of instability, the rise in the Argentine exchange to 53½*d.* in 1917; but it should be observed that at that time it was the pound which was fluctuating in relation to gold and not the Argentine peso. In the middle of 1919 we still find the peso at 51*d.* (the normal parity being 47·6*d.*); but this rate is near the normal parity in relation to the United States dollar. On the other hand, M. Décamps observes (*op. cit.*, p. 172) that without the conversion office the Argentine exchange might have risen to somewhere near its previous parity during the years in which the balance of payments was peculiarly favourable. This may be true, but the parity was not less arbitrary than the new parity and, as the return to the former parity had been rejected for economic reasons, it is impossible to find here any serious argument in favour of an unstable exchange—the only *régime* which could in practice have been substituted for that of the conversion office.

the Argentine peso again fluctuated; but as the conversion office has not been restored in its original form, there is nothing to show that this is due to any congenital vice in the system. Presumably it was a mere question of convenience; and it must be remembered that if the free export of gold has not been re-introduced in Argentina through the conversion office, *this is true of almost all the countries which were formerly on a gold standard.*

As for the *gold exchange standard*, we have shown that if its working has been temporarily suspended during the period of economic upheaval which followed the world war, this has been due to an accident (the rise in the price of silver) which is not in any way connected with the conditions necessary for applying the system. The Indian currency, a silver currency insufficiently fiduciary in character, could in the event of a rise in the price of the metal be exported so that a higher silver point was substituted for the gold point; moreover, the Government of India, being obliged to make up the volume of currency which was always being depleted by the hoarding of a large native population, was obliged to purchase silver abroad at a price which would have become ruinous if the silver had only been put into circulation at a rate of 15 rupees to the pound sterling—a rate much lower than the purchase price. It is obvious that the same difficulty might have arisen in the same country if gold instead of being used as a reserve for payments abroad had circulated at home. It would also have been necessary in these circumstances to alter the legal ratio between gold and silver coin.[1]

We should also note the remarkable history of the exchange in Greece, where in spite of three consecutive wars the exchange remained, under the system of the gold

[1] Unless the same action had been taken as in Mexico, where, a similar situation having arisen in 1906 after the ratio between gold and silver had been fixed at 1–32, permission was given for the export of silver subject to an equivalent re-import of gold. But this substitution of one metal for the other could hardly have been contemplated in India, where the silver currency answers the needs and tastes of the native population.

exchange standard, stable in relation to the French franc and, later, to the United States dollar down to the middle of 1919 and only fell after a fourth campaign which was also unsuccessful.

It is, however, even more important to remember that *the objection which is made to the system of the gold reserve that it did not everywhere withstand the crisis of the world war is equally true of countries with the traditional system of the gold standard. For from the opening of hostilities even neutral countries were obliged to suspend the convertibility of notes and the free export of gold, and even now their exchanges almost all fluctuate in relation to the dollar far outside the gold points.*

This fact is in itself sufficient to dissipate the legend that only countries with the gold reserve system have to face the problem of stabilising their currency when the balance of payments is in deficit and when international disturbances arise. Apart therefore from periods which are really catastrophic, when *all* monetary systems go to pieces, it is entirely permissible to contemplate that a system of this kind should be generalised and should work regularly with the help of some central institution of international credit.

But in the first place we must set aside the doubt which really lies behind the objection described above. If some people still hesitate in considering the gold reserve system as a normal one, the reason is that it does not seem to them to bring into play *those forces tending to bring about an equilibrium* which they believe to have been present in the former system of the gold standard with an internal gold circulation. They are obsessed by the old doctrine of Ricardo, either in its original form or in some new form; they believe that foreign exchanges naturally tend to balance and that this tendency reduces to a minimum the media of payments which will be required to wipe out any deficit and which will avoid any prolonged disequilibrium in the balance of payments.

Ricardo's arguments are well known. Under his antiquated theory any temporary excess of imports provokes the export of metal currency, and reduces the volume of

currency; this lowers prices and by stimulating exports restores equilibrium.[1] The same notion is put forward in a more modern form by emphasising the part played in international exchanges by exchange fluctuations; the depreciation of the national monetary unit in relation to foreign currencies helps to send up the internal price both of imported and exported goods. It therefore restricts imports and stimulates exports and so has a double effect in bringing about equilibrium in international trade and so restoring the exchange. As regards the first of these theories, that of Ricardo, it is not necessary to emphasise the loopholes in his argument.[2] It will be observed that it only applies to the trade balance and that it attributes to *small* fluctuations in the *volume of metal currency* an effect on the entire monetary circulation and on prices, which is neither demonstrable *a priori* nor susceptible of proof. As regards the second theory, which has already been examined, it rests on much more accurate

[1] This same theory of Ricardo (*High Price of Bullion*) also claims to account for the distribution of precious metals in the world; as their excess production sends up prices in the producing countries the trade balance of those countries continually shows a deficit and so the precious metals flow to other countries. In the course of an inquiry made locally shortly after the opening up of the gold mines in Western Australia, the author observed that the local rise in prices was *from the beginning* due to difficulties of transport and to the ease with which a monopoly could be created, and in no way affected the rest of the country. On the contrary, prices in Western Australia were determined by prices at Sidney (see the author's article "Contribution à une Théorie Réaliste de la Monnaie" in the *Revue d'économie politique*, 1906). It should be added that Australia, which is a large gold-producing country and has an ample circulation (larger in 1913 per head than the French circulation), had preserved up to the end of the 19th century a much lower price level than that existing in European countries. It is therefore demonstrable that the mechanism of distribution as conceived by Ricardo does not explain the actual distribution of Australian gold. The flow of gold to Europe appears mainly to result from the necessity of paying dividends on European capital and from the difficulty experienced by a new country, which devotes a large part of its productive forces to the exploitation of gold or silver mines, in developing its other export industries sufficiently to meet the debit side of its trade balance otherwise than by the export of precious metal.

[2] See on this point the author's "Le Rôle de la Monnaie dans le Commerce International et la Théorie Quantitative," thesis, Paris, 1904.

observations. But it is necessary to see exactly how far it goes. In the first place when exchange fluctuations do not go beyond the gold points they are too small to have any appreciable effect on current *commercial* transactions and could hardly produce a recovery in the balance of payments except in so far as they might stimulate arbitration on real estate or Stock Exchange securities or on temporary capital deposits—transactions which do not take place as between all markets but only as between certain large international centres.

When such fluctuations go outside the gold points, their effect on the trade balance appears to be much greater. We already know, however, that this effect only takes place *in so far as the rise in internal prices does not counterbalance the exporters' profit on exchange and the importers' loss on exchange*, in other words, so long as the purchasing power parity has not been restored. Moreover—and this appears to us to be a fact of capital importance—the premium which an exporter obtains through the difference between the cost of production and the price in national currency at which he will sell his bill payable abroad is likely to be divided with the foreign importers. *Thereupon the increase of exports by weight can no longer be reflected in a corresponding increase in value. The value of exports may therefore fall below that of imports merely owing to the depreciation of the exchange.* Moreover, the whole idea of an automatic equilibrium due to monetary factors presupposes that exchange rates are governed by the balance of payments or even by the trade balance, which, properly speaking, is the real factor taken into account by these theories. But if the balance of payments, *i.e.*, the balance of debts and credits falling due at any given date, does indeed appear to be the determining factor in fixing the rate of exchange so long as the latter remains within the gold points and speculation is thus relegated to the background, *this same factor often loses its importance when the exchanges are disturbed* and are subject to the forecasts, impulses and panics of the wildest speculation. An examination of exchange fluctuations since the war will show the importance of this obser-

vation. In such circumstances it is useless, even when the internal circulation has been reduced or stabilised, to count on exchange fluctuations to restore the balance of payments or on a restoration of the balance of payments to bring the exchange back into equilibrium.

Indeed in so far as it is at all permissible to speak of an equilibrium in international trade,[1] the *main factor in bringing about equilibrium will be found at the present day in the movement of capital. Such movements, due to international loans, have made it possible since the end of the 19th century to bring the balance of payments of poor countries into equilibrium and to restore their monetary systems.* On the other hand, it is the movements of the rate of discount, carefully regulated by the great banks of issue, which by attracting the available capital from abroad have made it possible for large trading countries to reduce their export of gold to a minimum by conveniently counteracting any surplus of debts which have fallen due.

It is well known that this discount policy, effective as it is to meet any temporary deficit in the balance of payments, is only possible *with stable exchanges.* For if the exchanges are irregular the risks involved by a double conversion both ways at different times of the sum transferred would not make it profitable to effect such transfers in order to obtain the profit of a slight rise in interest.

But whatever may be the influence attributed, rightly or wrongly, to fluctuations in the volume of currency due

[1] For it should be pointed out that theoretical writers have been somewhat precipitate in explaining a phenomenon the very *existence* of which has not been clearly established. Even during the period of comparative calm at the end of the 19th century we do not observe any general state of equilibrium in the balance of payments. On the contrary, we see a large number of countries receiving annually, in spite of new investments abroad which neutralise part of the payments due to them from foreign countries, specie payments in respect of a credit balance, whereas others continuously remain debtors. Among the latter the new countries which produce precious metals merely send back in the form of bullion the dividends of the European shareholders in their mines. Numerous others, on the other hand, fall a victim to chronic exchange crises and are reduced to perpetual external borrowing in order to bring their balance of payments into equilibrium.

to international payments in countries with a gold circulation the objections to the system of the gold reserve still arise from a misunderstanding of the conditions in which the latter works. In the first place, it must be pointed out that the gold points are determined under this system in exactly the same way as under the old system with a gold circulation—whether actual gold be supplied with a view to export, or whether the institution entrusted with the duty of conversion issues bills payable in gold. For in the latter case the bills are issued at a rate corresponding to the fixed parity *after deducting the cost of sending gold*.[1] Therefore in so far as the small exchange fluctuations which can occur within the gold points can exercise any regulating influence on international trade, that influence has its full scope.

On the other hand, the mechanism of conversion, which is usually adopted in countries with a gold reserve, also implies *variations in the volume of currency required for the purpose of making international payments which are exactly similar to those variations which would occur if yellow metal were taken out of circulation and transported.* For the coin which is deposited in order to obtain foreign bills, when the trade balance shows a deficit, is withdrawn from circulation. On the other hand, new coins or new notes are put into circulation in exchange for bills drawn on the country with a gold reserve when the balance of payments is positive. In our opinion all that precedes has shown that slight variations in the volume of currency have no appreciable influence on the working of the system.[2] At any rate, the method adopted by countries with a gold exchange standard is important, because it demonstrates the following facts: this monetary system, based on principles absolutely identical with those of the former *régime* of the gold standard, can also work successfully in precisely the same conditions. If the latter has the merit of bringing international trade back to equilibrium, the same phenomenon

[1] See above, in particular the passages relating to the exchange offices in Manilla, the Straits Settlements and British India.

[2] See also Ansiaux, "Principes de la Politique Régulatrice des Changes," Brussels, 1919, p. 257.

must necessarily occur in a system which involves the same exchange fluctuations within the gold points and the same automatic changes in the volume of currency in so far as these factors depend in either case on international payments.

§ 3. *Requisites for monetary reconstruction.*

Our conclusion therefore is that modern currency experiments show a gold standard system based on traditional systems but somewhat perfected in its application and more effective with an equal quantity of gold; none of the characteristics of a normal monetary system are absent from it. These experiments also indicate the way that should be followed in order to stabilise the exchanges by a return to the gold standard. Finally, the observation of present day events and in particular of recent monetary crises *show how foolish it is to attempt to bring monetary equilibrium out of a continual disequilibrium of the exchanges by a paradoxical use of the classical theory. On the contrary, it will be seen that the first condition for any future stability lies in the stability of the exchanges at any given moment, which eliminates the influences of political factors, obviates the dangers of a panic, facilitates the placing of credits abroad and, lastly, allows a discount policy again to come into play.*

Only a rational and methodical monetary policy which has as its object the re-establishment of the *external convertibility of notes* can put an end to the world crisis in exchange. A courageous fiscal policy and the stoppage of inflation are of course necessary adjuncts; but they are insufficient; *for, taken by themselves, they presuppose the maintenance for an indefinite period of the abnormal and revolutionary* régime *of inconvertibility, with its inevitable corollary of unstable exchanges.*[1]

[1] While convinced of the necessity of balancing the Budget in a country which desires to restore its finances, we confess that we cannot discover on what arguments Rist bases his statement that "no bear speculation can affect the currency of a country whose finances are in equilibrium" (*op. cit.*, p. 37). It is true, of course, that Budget equilibrium will constitute a psychological element in keeping the exchange right; it is also true that the

Our only remaining task is to consider the practical steps necessary in order to carry out this policy in each of the countries concerned. Most of these countries, like France, could probably return to a system of notes convertible abroad with the help of their own gold reserves if the question of their political debts were settled, and if they could substitute a long-term external loan for those speculative credits which are at present keeping up their exchanges but at the risk of allowing them to fall back.

But if we wish to examine the whole problem of a world-wide monetary reconstruction we shall have to set up a much more general plan. We reproduce here, with some additions, the plan which we have already sketched out in a previous work.[1]

In order to set up some system which on the whole will resemble the one which was in force before the war it would seem necessary to redistribute the stock of gold and supply each country with a volume of international currency corresponding to *the volume of its foreign transactions*, subject only to the following condition. Gold, which has become rather scarce owing to the rise in commodity prices even when expressed in gold, and to the fact that the tendency to a true balance of trade has diminished since the war, should not be in circulation at home; it would be destined exclusively for guaranteeing that the national fiduciary currency should be convertible abroad. But as it is hardly to be supposed that countries which have a

---

fiscal effort which it presupposes will be likely to prevent the import of superfluous luxuries to a certain extent, while it will also perhaps diminish the capacity to save, to produce and to export. In any case there is no direct and physical relation between Budget equilibrium and a stable exchange which justifies one in considering that the balancing of a Budget is a specific and sufficient remedy for an unstable exchange. Moreover, we have demonstrated that on careful analysis of the factors in a return to stable exchanges we discover in the last analysis—as in Austria and in Czechoslovakia—that unofficial or official action has been taken which has had the result of creating a supply and demand for bills at an approximately fixed rate.

[1] "Réparations, Dettes Interalliées et Restauration monétaire," Presses Universitaires, Paris, 1922.

plethora of yellow metal would be inclined merely to hand over to the poor relations of the League of Nations a proportional share and as they would at most be inclined to subscribe to an international loan for their benefit, *e.g.*, in dollars or in gold francs, we are led to contemplate another possibility which appears to be capable of practical development.

The gold required for converting one national currency into a foreign currency on a stable basis would not be transferred to each country in order to constitute a gold reserve. An *international credit institute* would be created, its capital being subscribed by an international loan.[1] It would open for the benefit of every country which could offer the necessary securities a credit adequate to its normal requirements for its balance of payments.[2] Among these securities there might figure in the first place the payment of interest in gold out of the balance of valuta of the exporters in each country. Out of this credit the bills

[1] This International Institute of Credit would not be a bank; it would only give credit to exchange offices. We should see no objection in principle to this International Institute being empowered to issue notes; on the contrary, it would be desirable; but this issue, which would be destined exclusively for international payments, would need to be almost entirely covered by gold unless the notes were legal tender currency in all countries. (See on this subject the author's note on the Vanderlip Plan, *Revue Économique Internationale*, January 1922). Moreover, as this Institute would play the part of an International Clearing House, it would hardly need to transfer gold even if it had no power to issue notes, for the book transfers which it would undertake would enable it to effect large international payments with the minimum amount of bullion. It is only fair to point out here that the idea of an International Clearing House was mooted and defined long ago by the distinguished Italian financier, Luigi Luzzatti, who, in principle, induced the Congrès de l'Union Économique Internationale to adopt it in 1912 at Brussels; see on this point the minutes of the Conférence Interparlementaire du Commerce for May 1922, and "La Paix Monétaire," by Luigi Luzzatti. We believe that this same idea should be carried out more systematically and in conjunction with the creation of national exchange offices.

[2] It is essential that this credit should be ear-marked; if, as is contemplated in the ter Meulen or Vanderlip system, credits are opened for the benefit of individual private persons, facilities might be given for certain transactions but there need not necessarily result a stabilisation of the exchange.

drawn, for instance in dollars or gold francs, would be paid, these bills having been issued by a National Exchange Office in each country adopting the scheme. This Office would be attached to the Bank of Issue or independent of it; it would be the sole borrower and in each country the sole correspondent of the International Credit Institute.

As this credit is destined to cover any possible temporary deficits in the balance of payments, it would, of course, be reconstituted by the National Office by the surplus private bills which it would purchase during periods when the balance of payments was positive.

This National Office by issuing gold or gold bills at a fixed rate would determine the *export gold point* of the internal currency, since private individuals would have the certainty, in the event of the quantity of commercial bills being insufficient, of obtaining official bills, *e.g.*, on New York, at a fixed rate and so of obtaining gold abroad. As experience has shown, they would therefore not be willing to pay for the bills a larger sum than the export gold point, and so the exchange of countries adopting the system would not fall below the established parity. It would only be necessary to authorise the National Exchange Office to accept foreign gold at the same rate at which it issued gold, or to purchase foreign bills with the internal currency at the same rate, after deducting the expenses of importing gold, in order to enable it to fix the equivalent of an import gold point whenever the balance of accounts was positive; for it would guarantee a minimum price for the bills of those persons who owned debts abroad if they could not immediately find a purchaser. Let us take, for instance, an Exchange Office set up in Paris and issuing gold or bills on New York at the rate of 15 francs to the dollar (after deducting the cost of transporting gold in the case of bills); obviously the rate of the franc in relation to the dollar could no longer fall below this point. In other words it would no longer be possible to sell "dollars," or to sell in Paris bills drawn on New York at more than 15 francs to the dollar, plus the cost of transferring gold, *i.e.*, above the gold point. And the quotations

of francs in New York could no longer differ widely from this rate; for Americans having a debt to recover in Paris would rather ask their debtor to make them a remittance than sell francs (bills on Paris) at New York at a lower rate than 15 francs to the dollar. On the other hand, the rate of the franc in relation to the dollar could not rise above 15 francs (after deducting the cost of transporting gold) if the Exchange Office receives gold at this rate, or even if it purchases at the same rate of 15 francs (minus the cost of transporting gold to France) bills drawn by French exporters over and above the actual requirements of the market. For these exporters will have the certainty of receiving not less than 15 francs (after deducting the cost of transport) for each dollar in selling their bills at this rate to the Office and will, therefore, refuse to sell their bills on the market at a lower rate than the new parity, after deducting the import gold point. The franc quotations in New York could not, even in these circumstances, differ widely from the Paris rate. For purchasers of francs in New York instead of paying more than 15 francs to the dollar (plus the cost of transport) would ship gold to France, where every gold dollar would be exchanged for 15 francs. Or, again, they would request their French creditors to draw bills on them and, as we have seen, these bills would be negotiated in Paris at a minimum rate of 15 francs less the cost of import.

This mechanism is in no way imaginary; it is, in fact, employed for the purpose of holding the exchanges in countries which make a rational use of the gold exchange standard, such as Austria and the Philippine Islands. It has no other basis than the normal play of arbitration for the benefit of a market which will guarantee the convertibility of its home currency into foreign currencies and of foreign currencies into home currency at the same rate. *It prevents the appreciation as well as the depreciation of the home currency*, which will only fluctuate within the two gold points. It is fundamentally identical with the classical mechanism of gold points as between countries with a gold circulation; it merely affords the possibility of substituting

for gold shipments the purchase and sale of foreign bills payable in gold at rates corresponding to the gold points themselves, such bills being purchased at par, less the cost of transporting gold, and being sold at par plus this cost. This difference is entirely justified by the economy effected in avoiding the actual transport of bullion. As is customary in countries with a gold exchange standard, a difference corresponding to the gold points is allowed to subsist between the selling price of bills held by the Office and the purchase price of bills offered by private individuals. The rate of exchange will continue to vary within limits approximately the same as those of the gold points and will thus afford useful information as to the state of the balance of payments at any given moment.[1] Moreover, there would seem to be no objection to the National Exchange Offices being authorised to establish branches in foreign markets with a view to facilitating arbitration, subject only to their activities being regulated in agreement with the international Credit Institute.

This being said, it would probably be desirable to replace, in countries where the currency is at present highly depreciated, the present circulation by a new one. This new circulation would be much reduced and would be based on a monetary unit convertible abroad by the method described above.

In other countries it would be enough to make an agreement between the International Institute and the National Office fixing a parity corresponding approximately to the average exchange rate during the period preceding stabilisation. This method appears to be necessary in order not to provoke economic disturbances which would in the first place affect exporting industries. Such industries would

[1] The purchase and selling prices of bills in most countries with a gold exchange standard have been fixed in this way, after taking into account the cost of transporting gold, *i.e.*, the effective gold points. In accordance with the suggestion made at Genoa it might even be possible to allow for a rather larger difference between the purchase price and the selling price of bills and so allow the exchange to fluctuate a little more widely in order that any signs of a possible disequilibrium in the trade balance may emerge more distinctly.

suffer from an exchange which did not correspond to the purchasing power parities if the difference were so great that this parity could not alter with sufficient rapidity.[1] But, if circumstances allow, the rate of exchange might be progressively raised in successive stages up to the normal par. *For it is the object of stabilisation not to fix at one blow an invariable rate of exchange, but in the first place to protect the exchange from violent fluctuations and above all from any further depreciation and in the end to put the country concerned in a position to govern its own exchange.*

The question arises whether the inauguration of this rational and simple system, which is really nothing but a modern adaptation of the gold standard systems with convertible paper, requires preliminary or ancillary measures such as the reduction of the note issue or the centralisation of exchange operations.

In our opinion, the reply to this question must vary according to the country under consideration. Taking first the possibility of an immediate contraction of the currency, it does not seem as though this step is absolutely essential in a country where the volume of currency is *appropriate to the level of prices and where proper account has been taken of that level in fixing the rate of stabilisation.* For the effective use of a gold reserve does not depend, under a system of convertibility, on the ratio between the volume of gold or gold credit available and the volume of fiduciary currency, *but on the ratio between the amount available in foreign currencies and the debit balance in international trade which has to be met.* Therefore, if the volume of internal currency corresponding to a higher level of prices in that currency is much higher than the pre-war figure, the amount of gold *necessary* in order to meet international payments *should never be fixed except in relation to gold prices.* It may, therefore, be *fairly independent of the level*

[1] It may indeed be feared that the purchasing power parity will alter much less easily with a rising than with a falling exchange. As has been shown above, the loss on exchange sends up internal prices and prices have a tendency to become stabilized at the new level in spite of factors tending to bring about a fall.

of prices in internal currency and of the volume of internal currency.

But if an attempt is to be made to raise the parity by successive stages, *e.g.*, every year or every two years, the normal procedure would be that this process should be accompanied by *a contraction of the currency.* In any case recourse to irregular issue of notes must be stopped once for all as being incompatible with sound budgetary principles which by common consent must be observed if the first condition for obtaining a credit destined to restore and stabilise the exchange is to be fulfilled.

On the other hand, we have seen that it is necessary for the National Exchange Office to be empowered to purchase private bills and therefore to re-sell them in order that the process of stabilisation may work both ways. But this does not mean that all foreign bills must necessarily be centralised there. In countries where financial as well as commercial transactions of an international character follow their normal course the Central Office will, if necessary, supply the required media of exchange out of its gold or gold credit reserve in the same way in which, before the war, the Banks of Issue of large trading countries did so (thus fixing the gold points) without it being necessary to restrict the liberty of private transactions in the slightest degree.[1]

[1] The compulsory centralisation of foreign valuta may of course be considered to be a pre-requisite of monetary reconstruction in countries which are without the stock of gold required for external payments, and are also unable to obtain external credits sufficient to provide drafts for meeting temporary deficits in the balance of payments. It is conceivable that in these circumstances the centralisation of all foreign exchange might enable foreign bills to be bought and sold at a fixed rate, subject only to proof that the bills sold are intended to meet payments for justifiable imports. Probably this method would not prevent the creation of other exchange markets with somewhat different rates; but it would at least prevent an increase in the price of such imports as are considered necessary beyond the limit corresponding to the value of exports. This is more or less the system which has worked in the belligerent countries of Central Europe, and particularly in Germany, during the period of hostilities. But it is a high-handed method, difficult to apply; on the other hand, the system of the gold exchange standard described above is as liberal as the former

The above account was intended to present in a concrete form a method of monetary reconstruction strictly based on the principle of the gold standard. It is, moreover, a system which should be compatible with bimetallism, if the latter were universally adopted. Whatever may be the detailed methods employed, monetary reconstruction presupposes a return to the convertibility of the internal currency either by means of a stock of gold or of foreign bills,[1] or with the help of external credits.

At the time of writing, when monetary problems not only form the occasion for some fine intellectual fireworks but when the economic, social and therefore also the political life of so many countries is bound up with their solution, the author considers it his duty to draw the attention of his readers to the practical conclusions which he had thought it possible to form in the present state of the science of economics. And some of those readers will perhaps recognise the importance of erecting practical schemes on the basis of a theory which has been somewhat renovated.

For so long as we cling to those superficial propositions which reduce all monetary problems and their solutions to notions of quantity, it is difficult to see any issue to our present difficulties except in a policy of deflation. It is thought that deflation will bring about a progressive improvement in the exchange and that the exchange will be stabilised by the mere abolition of forced currency and

---

system of the gold standard. Nevertheless, while it is difficult to force exporters to hand over all the bills which represent their sales abroad, so long as they are afraid of a drop in the exchange and therefore desire to pile up a reserve abroad, it is easy to obtain foreign currencies when confidence returns and the exchange is stabilised. This happened in Czechoslovakia, where the central institute of foreign exchange at Prague was of assistance in bringing about monetary reconstruction.

[1] It is easy to see that a policy of "intervention on the exchange market" with the help of a stock of foreign bills or of a foreign credit quite naturally ends in a *régime* of convertibility whenever the intervening organisation is in a position to buy up all the surplus drafts or to sell all the surplus foreign valuta at an equally constant rate. This is what happened in Czechoslovakia.

thus bring about a return to the former par. In the belief that they are acting in conformity with principles of more than secular respectability, some people expect that our present difficulties, which run the risk of degenerating into real dangers, will be automatically solved at a distant future. They have a serene confidence in certain dubious forces tending towards equilibrium and in the indirect effect of factors which may be useful but will not suffice by themselves. And as deflation appears to be impossible or inopportune at the present time, as a progressive and spontaneous return to the former par appears to be somewhat utopian in most countries, there is a tendency to abstain from any other action, even when any reasonable attempt at monetary reconstruction is not condemned as "artificial" in the name of "sound doctrine."

It is the author's hope that this work taken as a whole, and in particular the last chapter, may contribute to remove these prejudices and that it may impress on the mind of the reader the belief that a "sound" currency is no doubt a currency issued in limited quantities, but that it is also and above all a currency which is convertible at an approximately constant rate; and that in order to restore order in finance, which is at the basis of our social and economic order, an attempt must be made without delay to make national currencies convertible into each other, *i.e.*, in practice, convertible into gold.

CONCLUSION

The reader was reminded in the introduction to this work that the classical theory of money rests on certain simple data such as the idea of commodity and the idea of quantity. Deductive reasoning easily draws various combinations from these data, which seem at first sight to be applicable to almost all circumstances. We have, however, proved in our study of contemporary monetary phenomena that such conclusions—often far too hasty—will provide only crude explanations in some cases and in others rules which do not square with the facts. In particular we have emphasised that crude theories drawn merely from ideas of quantity and commodity will not suffice to explain the phenomena of so-called depreciation. We have seen, particularly in the case of India, that certain thinkers, governed by considerations which were too abstract, fell wide of the mark. We have also seen in reviewing the exchange crisis at the end of the 19th century and the present crisis, that the facts will often not square with dogmatic theories which have been elaborated too soon.

After considering the most general propositions of the classical doctrine, we were led to subject the Quantity Theory which governs that doctrine to certain reservations. It is not a question of contesting the accuracy of the initial observation on which it rests. But the proposition which it puts forward has reference to the observation of a closed market in which, by hypothesis, supply can no longer answer to a rise in demand as shown by an increase in the media of payment. We have shown that it is necessary to take great precautions in applying observations about a static condition to a market which is animated by continuous movement. The Quantity Theory rests on a

very simple hypothesis; over against a stationary supply it sets a variable demand corresponding directly to the quantity of money brought on the market. It is not possible without important reservations to compare such a market to a whole country in which goods continually appear on the market and *where there is no such direct relation between changes in the volume of currency and the amount of income and capital thrown on the market.* In the first case the disequilibrium between supply and demand is necessary and evident, even in the case of small changes in the volume of currency. In the second case the position is different. For the adjustment of supply to demand is not *a priori* impossible. It may take place because a swollen stock of currency may circulate more slowly; or, again, production may be stimulated in so far as the agents of production allow, by an increase in the actual monetary circulation. Therefore the Quantity Theory is only applicable when an increase in the volume of currency is accompanied by an increase in demand—and this is not always evident *a priori*—and when the rise in demand exceeds any possible increase in production.

The Quantity Theory is obvious in cases where currency has been widely expanded. But it is no longer so in cases where there have been moderate changes in the circulation. It is therefore impossible to construct theories based on the supposition that changes in the volume of currency exercise a continuous action, whatever the quantities involved. Although it may be painful to abandon so convenient a rule, we are convinced that scientific work can lose nothing by giving up "certainties" which are more real than the facts themselves. Such easy certainties have only served as a basis for approximate or erroneous explanations. We have shown that more often than not in cases where the Quantity Theory taken in the abstract no longer gives the desired explanation, the old law of supply and demand, which is at the basis of the Quantity Theory, supplies, on the contrary, a clear and accurate explanation *when it is applied to the exact data of the problem.* For we have shown that most monetary phenomena are

explained by a knowledge of *exchange mechanism* under monetary *régimes* which require to be exactly described and the working of which must be accurately ascertained.[1] Finally, we have shown that such phenomena are often unconnected with superficial considerations of quantity with which they have been connected in the absence of a sufficiently detailed knowledge of the data. It has also seemed to us that the idea of commodity, far from being an essential element in the conception of money, tends, on the contrary, to disappear in the course of history; and it is impossible to explain in terms of this idea monetary phenomena which are directly bound up with the theory of value. For we have shown that the idea of supply and demand cannot be borrowed from a normal market with free competition between buyer and seller and applied to quite a different market, such as is created by the system of free coinage, where the supply of precious metal is always certain to find an unlimited demand at a fixed rate. On the other hand, we have shown that if the law of supply and demand is applicable to money subject to the reserve which may be made in regard to the Quantity Theory, the volume of currency in circulation is no longer in direct relation to the quantity of precious metal transformed into currency. Hence the part played by a metallic currency and its production in determining the value of a monetary unit tends to become smaller. When the system of free coinage was established, the value of fresh metal was fixed in relation to that of the monetary unit; thereafter it could no longer have any appreciable effect on the value of the monetary unit. We have thus been led to a more modest, but, as we believe, a more accurate definition of the function of gold as an international currency; we do not see in it—as is commonly supposed—a kind of physical support for abstract monetary units, but rather as a machine for transforming national monetary units into each other at a fixed rate. For

[1] We have shown that exchange has become more and more important as compared with inflation in bringing about a rise in prices at the present day.

its commercial rate (or its "intrinsic" value) in our opinion, far from being the basis of its monetary value, was more or less the result of the system of free coinage which ensures that the quantity produced, whatever it may be, will flow into the various monetary units at a fixed price. And so it has led us to define our conception of a standard.

These concluding theoretical considerations are not indispensable for the understanding of all monetary phenomena. But we believe that they will contribute to an understanding of some of these phenomena and in particular those which are connected with the working of bimetallism during the first three quarters of the 19th century, and which would be inexplicable if money were conceived as a commodity or if its legal value were determined by a commercial rate.

Finally, when we come to practical application, we have attempted to show that the conception to which a scientific study of monetary phenomena leads contains the elements of the solution of some of the most serious problems of the present day.

INDEX

Aftalion, M., 92 *note*, 104 *note*, 113 *note*, 114 *note*, 155 *note*
Ansiaux, Maurice, 102 *note*, 218 *note*
Argentine Republic, Monetary Reforms, 39, 41, 212
Arnauné, M., 22 *note*, 130 *note*
Austria-Hungary:
  Exchange Policy during War, 55
  Monetary Reforms, 44 *et seq.*, 88 *et seq.*
  Price Movements and Currency Expansion, 92, 113

Bimetallism:
  Classical Theory contrasted with, 97 *et seq.*
  Definition, 7
  End of System, 27 *et seq.*
  Establishment and working of, 14 *et seq.*
  Free Coinage under, 15, 16, 166 *et seq.*
  Gold and Silver, Ratio between, 17 *et seq.*
  Operation of System, 1814–73, 16 *et seq.*
  Silver Fluctuations in Monometallist Countries, 19
  Stable Exchange Ratio between Gold and Silver, 23, 167
Bodin, Jean, 103 *note*
Boislandry-Dubern, M., 68 *note*
Bonnet, M., 74 *note*
Bourguin, Maurice, 164 *note*, 178 *note*, 185
Brazil, Free Export of Gold, Prohibition, 50 *note*, 212
Bridrey, M., 16 *note*

Cannan, Edwin, 143 *note*
Carron, Pierre, 106 *note*
Carver, T. N., 102 *note*
Cassel, Gustav, 50 *note*, 87 *note*, 148, 149, 150, 153, 156, 157, 194, 203
Cauwès, Paul, 23 *note*, 168 *note*
Cernuschi, Henri, 178 *note*
Classical Theory of Money, Criticism, 97 *et seq.*
Coinage:
  Free Coinage and the Value of Money Metals, 168 *et seq.*
  Unit of Account, 163
Constant Purchasing Power, Currency with, 194 *et seq.*
Currency Committee (Lord Cunliffe), 1920, 72
Currency Expansion and Price Movements, 101 *et seq.*
Czecho-Slovakia:
  Price Movements and Currency, 113
  Stabilisation of Currency, 76 *et seq.*

Damiris, M., 38 *note*
Décamps, M., 60 *note*, 212 *note*
Deflation in England after War, 72
Depreciation in relation to Exchange Phenomena, 126 *et seq.*
Deschamps, A., 195 *note*, 196 *note*
Desparny, Albert, 106 *note*
Double Standard, *see* Bimetallism

England:
  Currency Inquiry, 1920, 108
  Deflation after War, 72
  Discount Rate raised, 1920, 73
  Gold Standard, Effects of, 15
  Price Movements, 1920–22, 73
  Trade Balance and Improvement in Sterling, 75
Englis, Herr, 82
Excess Production, *see* Quantity Theory.
Exchanges:
  Abnormal, Causes of, 133
  Austria, War-time Policy, 55
  Automatic Adjustment Hypothesis, 150 *et seq.*
  Bills of Exchange, 204
  Crises, Causes of, 133 *et seq.*
  Fluctuations after the War, 57, 58, 59
  Fluctuations, Principles governing, 12, 138 *et seq.*, 146
  Germany, War-time Policy, 55
  Gold Points, Definition, 11, 129

Exchanges: (*continued*)
International Fiduciary Currency, 205 *et seq.*
Normal, Necessary Conditions for, 156 *et seq.*
Paper Currency and the Rate of Exchange, 144
Par of Exchange, Definitions, 43, 128, 130
Post-war Monetary Crisis, 57 *et seq.*
Purchasing Power Parity—Fluctuations limited by, 148 *et seq.*
Purchasing Power Parity—Function of Exchange Rate, 153
Quantity Theory applied to, 127, 140 *et seq.*
"Rate of Exchange," 130, 131
Stabilisation Problem, 203 *et seq.*, 219
Stable Exchanges on Gold Basis, 46
Theory and Mechanism of, 101, 125 *et seq.*, 128 *et seq.*
United States Dollar, Union of Franc and Sterling with, 52
War Dislocations, 49, 54

Fiduciary Money, Effect of Excessive Issue, 135, 136
Fisher, Irving, 87 *note*, 117, 118
Monetary Stabilisation Plan, 194 *et seq.*
Foville, A. de, 22 *note*, 103 *note*
Free Coinage of Gold: Suppression, causing Silver Depreciation, 28
Free Coinage of Gold and Silver:
Bimetallism, Effects on, 14 *et seq.*
Precious Metals, Value of, 166, 168
French Monetary System:
Bimetallism, experience of, 14 *et seq.*
British Credits during War, 53, 60
"Commercial Tokens," 15
Exchange Fluctuations, 125
Forced Currency Law, 1916, 192
United States Dollar, Union of Franc with, 53
French Revolution, Issue of Assignats, 105, 136

Germany:
Capital, Flight of, 62, 63
"Constant Value Accounts" System, 69
Exchange Policy during War, 55
Foreign Exchange Office established, 56
Inflation and Rise in Prices, 112
Germany: (*continued*)
Note Issue after War, 63
Price Movements after War, 64, 65 *et seq.*
Rentenmark, 71 *note*
Rye and Coal Value Loans, 69
Gide, C., 107 *note*, 167 *note*, 200
Gold:
Export and Import, War-time Prohibition, 50
Free Export, Condition of Stable Exchange, 158
Increased Production, General Effects of, 104
Gold and Silver, Fluctuations in Price, 1814–73, 17
Gold Exchange Standard:
Adoption, Arguments for, 210 *et seq.*, 213
Argentine, 41, 42
Austria-Hungary, 45
Convertibility, Limitation, 210
Definition, 8
Exchange Stabilisation by means of, 160, 161
Indian, 35, 36
Gold Standard:
Definition, 5
Fundamental Similarity between Systems of, 209 *et seq.*
Stabilisation and the Return to, 209 *et seq.*
Great War, 1914–1918:
Inflation and Rise in Prices, 106 *et seq.*
Monetary Crisis, Effects of, 48 *et seq.*
Greece, Monetary Reforms in, 38, 213

Hoover, Herbert, 79 *note*
Houques-Fourcade, M., 170 *note*

India:
Council Bills, sale of, 35
Exchange Instability, 98, 133, 142
Exchange Standard, 35, 36
Imitations of Indian Monetary Reform, 38
Rupee Stabilisation, 1920, 51
Silver Appreciation, Effects of, 51
Silver Currency Measures 1893, 27 *et seq.*
Silver Imports, 21
Trade Balance, 35
Inflation and Depreciating Currency, 135
International Fiduciary Currency, 205 *et seq.*

International Institute of Credit suggested, 221 *et seq.*
International Trade Equilibrium, 217

Kemmerer, A., 35 *note*, 36 *note*, 39
Keynes, J. M., 154 *note*
Knapp, G. F., 179 *note*

Landry, A., 3, 195 *note*
Law, John, 121 *note*
League of Nations Reports, 53 *note*, 89 *note*, 90 *note*, 91 *note*, 92 *note*, 93 *note*, 109
Levasseur, E., 103 *note*
Liautey, A., 103 *note*
" Limping " Gold Standard, 7
Locke, John, 15 *note*
Luzzatti, Luigi, 221 *note*

March, L., 195 *note*
Marion, M., 106 *note*
Masson-Forestier, M., 40 *note*
Meulen, E. C. ter, 221 *note*
Minting, French System of, 3, 4
Mitjaville, M., 142 *note*
Monetary Stabilisation, Proposals for, 194 *et seq.*
Monetary Standard :
  Definition of Idea, 175 *et seq.*
  Nature of, 183 *et seq.*
  Unstable Currency, Legal Solution of Problem, 188 *et seq.*
  Values measured by, 184 *et seq.*
Money as a Commodity, 162 *et seq.*
Money of Account, 163 *et seq.*
Money Value, *see* Value of Money.
Morgan, J. P., and Co., 53 *note*

National Exchange Offices suggested, 222 *et seq.*
Neutral States, Monetary Consequences of War, 48
Newton, Sir Isaac, 15 *note*
Neymark, Alfred, 195 *note*
Nigh, A., 106 *note*
Nogaro, B., 99 *note*, 122 *note*, 123 *note*, 215 *note*

Olivier, M., 154 *note*
Ovalid, M., 50 *note*

Paper Currency :
  Definition of System, 9
  Early Uses of, 163 *note*
Par of Exchange, Definitions, 43, 125, 130
Pharmakidis, 38 *note*
Philippines, Monetary Reforms, 1903, 38, 39
Piot, A., 79 *note*, 82 *note*
Polish zloty, 191 *note*
Prices :
  Exchange Movements and Prices, Relation between, 66 *et seq.*
  Germany, Price Movements after War, 64, 65 *et seq.*
  Purchasing Power Parity, Reaction on Prices, 148, 153
  Quantity Theory in Relation to, 101 *et seq.*
  War Inflation, Effect of, 106 *et seq.*
Public Expenditure, Variations in Purchasing Power of Currency, 190
Purchasing Power, Constant, Currency with, 194
Purchasing Power, Contract Obligations, 188 *et seq.*
Purchasing Power Parity :
  Discussion of Theory, 148 *et seq.*
  Function of Rate of Exchange, 153

Quantity Theory :
  Basis and Logical Validity, 114 *et seq.*
  Considerations and Reservations, 229 *et seq.*
  Exchange Rate in Relation to, 140 *et seq.*, 157
  Exchanges, Application of Theory, 127
  Historical Instances, 103
  Inadequate Explanation of Monetary Phenomena, 97 *et seq.*
  Price Movements in Relation to, 101 *et seq.*

Rasin, Dr. A., 77 *note*, 78, 80, 81, 82, 83, 86, 87
Reis, Souza, 44 *note*
Revillout, M., 163 *note*
Ricardo, David, 99, 214, 215
Rist, Charles, 73 *note*, 82 *note*, 85, 87 *note*, 88 *note*, 105 *note*, 108, 109 *note*, 128 *note*, 151 *note*, 219 *note*
Rosa, J. M., 40 *note*
Roulleau, M., 195 *note*
Rupee Stabilisation, *see* India

Seipel, Mgr., 89
Silver :
  Appreciation, 1916, 51
  Depreciation after 1873, 27 *et seq.*
  Fluctuations in Prices, 17
  Indian Imports, 21
  Indian Suspension of Coinage, 1893, 32 *et seq.*

Silver Standard, Definition, 6
Spain, Exchange Crisis, 142 *note*
Straits Settlements, Monetary Reforms, 38
Subercaseaux, M., 41 *note*, 67 *note*, 143 *note*
Sweden, Exchange Instability, 133

Théry, Edmond, 195 *note*, 197 *note*
Théry, Réné, 40 *note*

United States:
"Compensating" Dollar, 194, 200
Germany, Payments on Basis of U.S. Dollar, 188, 189
Normal Finance, Restoration, 71

Value of Money, 166 *et seq.*
"Commercial" Value of Precious Metals, 169
Value of Money (*continued*)—
Costs of Production, Money Metals, 174
Exchange Ratio, Gold and Silver, 166
Exchange Value, 165
"Intrinsic" and Functional Value, 171
Measurement by means of a Standard, 184 *et seq.*
Purchasing Power and Supply, 173
Vanderlip, M., 221 *note*

Wages and Prices with Depreciating Money, 67
Walras, Léon, 32, 33 *note*, 171 *note*, 194
Wiehe, G., 103 *note*
Williams, J. H., 41 *note*

BOOKS TO READ

A HISTORY OF THE BANK OF ENGLAND

By A. ANDRÉADÉS, C.B.E., Professor of Public Finance in the University of Athens. With a Preface by Professor H. S. FOXWELL, M.A. *Second Edition.* Demy 8vo. 455 pp. 15*s.*

Manchester Guardian.—"The book discloses not only wide research on the part of the writer, but also a deep sympathy with the subject which carries the reader along with it. It is certainly *the* History of the Bank, and derives special interest from being the work of a foreigner, who naturally does not view his subject from exactly the same standpoint as ourselves. As a history it appears to be marvellously comprehensive, and the review of the surrounding conditions affecting general finance at various periods is both accurate and intelligent."

THE AMALGAMATION MOVEMENT IN ENGLISH BANKING

By J. SYKES, B.A., M.Com., Assistant Lecturer in Economics, University College, Exeter. Demy 8vo. 243 pp. 10*s.* 6*d.*

This movement has been in progress over a long period of years in one or other of its somewhat diverse forms. But not until the discovery in the "twenties" of the nineteenth century, that joint-stock banks might actually be set up, and until subsequent agitation had provoked the passing of the 1826 Act, was it possible for the concentration movement to assume its modern phase. It is from this period that this history is recorded.

MONEY: Its Connection with Rising and Falling Prices

By EDWIN CANNAN, M.A., LL.D., sometime Professor of Political Economy in the University of London. Author of "Wealth," etc. *Fifth Edition.* The latter portion has been entirely re-written, much new matter added, and cloth binding substituted for paper. 120 pp. 3*s.* 6*d.*

RUSSIAN CURRENCY AND BANKING, 1914-1924

By S. S. KATZENELLENBAUM, Professor of Economics in the First State University of Moscow, Member of the Board of Directors of the State Bank of the Union of Soviet Socialist Republics. Demy 8vo. 198 pp. 9*s.*

In publishing this treatise in English a double aim is kept in view. On the one hand, it is desired to make the British public acquainted with the changes that have taken place in the last few years in the currency and credit system in Russia; on the other, to make known to those interested in theoretical problems the views of the author regarding the laws governing the depreciation of paper currency.

P. S. KING & SON, LTD.
14 GREAT SMITH STREET, WESTMINSTER, S.W.1

BOOKS TO READ

THE PROBLEM OF THE RUPEE: Its Origin and its Solution

By B. R. Ambedkar, D.Sc. (Econ.). With a Prefatory Note by Edwin Cannan, M.A., LL.D., Professor of Political Economy in the University of London. Statistical Charts. Demy 8vo. 322 pp. 15*s*.

Contents: From a Double Standard to a Silver Standard—The Silver Standard and the Dislocation of its Parity—The Silver Standard and the Evils of its Instability—Towards a Gold Standard—From a Gold Standard to a Gold Exchange Standard—Stability of the Exchange Standard—A Return to the Gold Standard.

Charts: Discount Rates in India—Relative Values and Relative Production of Gold and Silver—Fall of the Rupee Stirling Exchange—Fluctuations of the Rupee Stirling Exchange—Prices and Wages in India and England, 1873–1893—Comparative Price Levels, 1893–1922.

RESTORING CURRENCY STANDARDS

By E. L. Hargreaves, Ph.D. Demy 8vo. 110 pp. 6*s*.

This book deals with the monetary history of America, France and Austria during the period 1780–1813. The author has unearthed much forgotten history, which is so like that of recent years as to suggest the adage "there is nothing new under the sun."

FINANCIAL RECONSTRUCTION IN ENGLAND, 1815-1822

By A. W. Acworth, B.A. (Oxon.). Demy 8vo. 156 pp. 8*s*. 6*d*.

In 1815 as in 1918, England emerged from a great European War, victorious, but with an enormous load of Debt, a dislocated Budget, and an inconvertible and depreciated paper currency. In both cases the return of Peace was associated with a period of unexampled industrial depression. This book represents an attempt to give a short account of what actually happened after 1815.

THE AUSTRIAN CROWN: Its Depreciation and Stabilization

By J. Van Walré de Bordes, LL.D. With an Introduction by Sir Henry Strakosch, K.B.E. Demy 8vo. 252 pp. 15*s*.

The notable and successful work which the League of Nations accomplished in improving the monetary position of Austria is here described by a member of the League Secretariat.

The Economic Journal.—"This book is a very able attempt to test and restate current theories in the light of actual facts, carefully observed. It is neither a mere catalogue of events nor a series of deductive generalizations based on general tendencies, but a close inquiry into the phenomena accompanying the depreciation and stabilization of the Austrian crown, with an application of the results to general theories about the value of money . . . it is indeed one of the best books on currency questions which has appeared for some time."

P. S. KING & SON, LTD.
14 GREAT SMITH STREET, WESTMINSTER, S.W.1

BOOKS TO READ

CURRENT PROBLEMS IN FINANCE AND GOVERNMENT: Addresses and Papers

By Sir Josiah C. Stamp, G.B.E., D.Sc. Demy 8vo. 350 pp. 10*s.* 6*d.*

Author's Preface.—"The studies included in this volume have one feature in common—they deal with subjects which remain alive in the public interest. . . . Some, by which I set little store, have been included because of repeated requests from correspondents; to these I accede on condition that other studies whose message I imagine an unobservant public still needs without knowing it, are also accepted by them."

THE TRADE CYCLE. An Account of the Causes Producing Rhythmical Changes in the Activity of Business

By F. Lavington, M.A., Girdler's Lecturer in the University of Cambridge. *Second Edition*, revised and brought up to date. Crown 8vo. 113 pp. 4*s.* 6*d.*

Scotsman.—"Well-reasoned and instructive throughout, it throws out some practical suggestions for checking reckless speculative expansion of business and over-optimistic stimulation in periods of boom."

CREDIT AND CURRENCY, NATIONAL AND INTERNATIONAL

By the Rev. Walter Goodliffe, M.A., sometime a Mawson Scholar of Corpus Christi College, Cambridge. Demy 8vo. 180 pp. 8*s.* 6*d.*

The object of this book is to diagnose the monetary ills from which the world is suffering and to suggest a remedy that will be at once sound, practicable and universal. The language has been kept simple and free from technical terms, that readers without previous knowledge of the subject may be able to follow the line of reasoning.

THE FOREIGN EXCHANGES

Being the Newmarch Lectures for 1922–23 delivered by A. W. Flux, C.B., M.A. Demy 8vo. 200 pp. 10*s.* 6*d.*

Illustrated by several diagrams and charts showing the course of the exchanges.

The Times Literary Supplement.—"This book forms a useful introduction to the study of post-war exchanges, and concentrates on the actnal nature of international exchange, set free from the central idea of currency exchange. This imparts a sense of reality to the discussion which will be welcomed by the 'plain man,' for whom the book is intended.

P. S. KING & SON, LTD.
14 GREAT SMITH STREET, WESTMINSTER, S.W.1

BOOKS TO READ

THE INCOME TAX IN GREAT BRITAIN AND THE UNITED STATES

By HARRISON B. SPAULDING, Ph.D. Demy 8vo. 280 pp. 12*s.*

In both Great Britain and the United States the income tax is the principal source of public revenue, and a comparative study of the income tax laws of these two great English-speaking nations has long been needed. This book is an attempt to meet this demand.

CURRENCY AND PRICES IN INDIA

By C. N. VAKIL, M.A., and S. K. MURANJAN, M.A. Demy 8vo. 560 pp. 18*s.*

This volume explains in detail the causes affecting the changes in the prices of different important commodities and the general price-level in India. The part played by the currency system in this connection is also fully discussed.

AN ACADEMIC STUDY OF SOME MONEY MARKET AND OTHER STATISTICS

By E. G. PEAKE, O.B.E., M.A., LL.B. *Second Edition*, revised and extended. Crown 4to. 100 pp. 42 Statistical Charts and many Tables. 15*s.*

INFLATION

By J. SHIELD NICHOLSON, M.A., Sc.D., Professor of Political Economy in the University of Edinburgh. Crown 8vo. 143 pp. 3*s.* 6*d.*

The Inflation consequent on the Abandonment of the Gold Standard during the War—The Burden of High Prices—The Burden of our Public Debt and of Taxation for Interest.

BANKING POLICY AND THE PRICE-LEVEL
An Essay in the Theory of the Trade Cycle

By D. H. ROBERTSON, M.A., Fellow of Trinity College, Cambridge, Lecturer in Economics in the University of Cambridge. Crown 8vo. 106 pp. 5*s.*

The purpose of this book is to examine critically the doctrine that the Trade Cycle is due to purely monetary causes and could be abolished by a monetary policy designed to keep the general price-level stable. The merits and limitations of such a policy are discussed together with some other matters bearing on the problem of industrial stabilization. In the course of the argument some new light, it is believed, is thrown on certain aspects of the Theory of Money and Banking, and on the nature of the burden inflicted by Inflation.

P. S. KING & SON, LTD.
14 GREAT SMITH STREET, WESTMINSTER, S.W.1

Date Due

L. B. Cat. No. 1137

HG255 .N65
Modern monetary systems
01696351 V

HG
255
N65
066762
NOGARO, B
MODERN MONETARY SYSTEMS